The FitzPatrick Lectures
ON
GREEK MEDICINE IN ROME.[1]

Delivered at the Royal College of Physicians of London

BY SIR T. CLIFFORD ALLBUTT, K.C.B., M.D. CANTAB., F.R.S.,
REGIUS PROFESSOR OF PHYSIC IN THE UNIVERSITY OF CAMBRIDGE.

LECTURE I.

PRESIDENT AND FELLOWS,—In calling me to deliver the FitzPatrick lectures you have done me much honour, and it would be an ill-timed, however genuine, a diffidence which might seem to disparage your election; I may, notwithstanding, hesitate for a moment, as I regard the dignity of this place and as I admire the services of my predecessors. In them we have had examples of wide and sound learning, of biographical skill, and of anecdotal charm which are above my hope, and I trust outside your comparisons. For such lists I am unarmed. To original research I have no pretensions; I am a child in scholarship. Yet in some converse with letters my tastes, if not my talents, have attracted me to the development and propagation of ideas, and it will be my endeavour to present to you some broad sketch, thin and partial as it may be, of this evolution as illustrated in the history of medicine.

On the dark and stupendous background of Rome, from the foundation of the City to this day, has been displayed, as on no other canvas, the procession of those forms and those forces, innate or acquired, of science, art, politics, and religion, by the conflict and interpenetration of which the nations of modern Europe were made, governed, and inspired.

We have our moods in which we ask ourselves if history is a fruitful study—nay, indeed, if it be not a sign of an uncreative or even of a decadent society. If our hearts are opening more and more towards the promises of the future, why should we be hankering after pictures of the past? Did the Greeks of the Parthenon regard the earlier temples whose fragments they built into their battlements, or did the Greeks of Sancta Sophia painfully restore the ruins of the Temple of Constantine? Did not the builders of St. Mark's or of St. Paul's without the Walls for their own creation even demolish the monuments of the past, as the painters of the generation of Massacio obliterated the frescoes of their fathers, and as the scribe of the cloister buried the silver uncials of some rare Pagan manuscript under his ruder record of the Gospels? Was it not, then, the wistfulness and pathos of a nation passing its prime which first tuned the notes of Virgil to a historical theme? Was not his patriotism the passionate clinging to a form which was passing away? And when our own poets take up the chant of *Où sont les neiges d'antan*, is the voice one of joy or of foreboding? In our saner judgment we shall answer with some boldness that the study of history need be no wistful turning back from the plough to yearn after golden ages which never were; that history is much more than the raw material for pious platitudes, and regrets, and picturesque instances. The study of history must become the orderly reflexion and method of a society, past its golden childhood indeed, yet parting with this blessed blindness, to enter upon a nobler life, in the maturity of reason and responsibility. To sap our ideals, as Roman history and all history show, does mean decadence; and it is for history to reveal the unity, the spirit, and the growth of all human ideals; and to maintain our standards. Nay, may it not, as at the Renaissance which drank deep of the past, by a kind of psychical cross fertilisation, infuse in us the rudiments of a new epoch? It has been said that as an emotional and instinctive being man is dateless, but as a reasonable being that he is of yesterday. In its youth society is sustained by authority—by authority of king, priest, or philosopher; myth is then its history; but when authority ceases and self-consciousness awakes historical reflection must begin. The society which had grown up on tradition, on its instincts as the ants and the rooks, must, if it is to interpret its own nature and to shape its future, now take to learn at first hand the origins, the course, and the principles of its growth, wealth, and activities, and moreover to apprehend the vast scale upon which not only material but spiritual forces operate. For time present can scarcely be said to exist: *Dum loquimur fugerit invida aetas.* From history, "a longitudinal section of human life," as Ilberg calls it, we shall apprehend how hideous is the waste in the phases of unreflective social development; and how progress may be made, not by scrapping one human society or devouring another, but on lines of continuity in free spaces of expansion, and by disengaging and delineating the methods by which a rational creates an economical evolution.

Thus truly it is that we are assured by our professorial colleagues that history is a science, a truth of which we are made painfully aware when nowadays from the Capitoline Hill we look down upon the stonemason's yard still bearing the name of the Roman Forum. Science looks to the future it is true, but to the more material future. It has little or no concern with values, but with means rather. Science seeks not exemplary instances; for science no fact is despicable because it is little; true and false opinions are alike significant of the mind of the past. History is a science when by its methods we analyse our past; it becomes an art when for our inspiration we recreate the ideals which time had devoured, and when as politicians we apply them to life. With the disengagement of reason there is no doubt in society, as in the individual, some loss of spontaneity; moreover, the creative and the deliberative impulses instead of uniting in fertile marriage are but too apt at first to get in each other's way, to act at cross and even contrary purposes, and to mistrust each other, so that each faculty drags its images and counterfeits from the past to impose them upon its own times. Thus we are provided with static monuments of the past for admiration and example, rather than with the breath of its dynamics for our life, strength, and beauty. But the historical philosophy of an age gone by did not consist in its fashions nor even in its ostensible systems of logic. Of course, no category which becomes an instrument of thinking can ever become obsolete, but to imitate the past, as our modern mediævalists would do, is but a masque; as to form and custom history never repeats itself; it is in a restoration of the motive and the spirit of the past that we must cherish the perpetual fire to animate and renew the ever-changing forms which are never repeated. Man should ever be more and mightier than his past. It is, then, the mediatory office of such lectures as these to interpret the past *sub specie historiae;* to construct a historical or comparative criticism of life; to bring life and flexibility into law and logic, to warn us against the clumsiness of interpreting the ancients by translating our ideas and ways into theirs, as men have imputed Christianity to Virgil and Bacon to Shakespeare, and as the earlier critics of the Bible, in the immaturity of the historical sense, occupied themselves with judicial criticisms of its contents: or conversely to warn us against the illusion of tricking out modern ideals in ancient trappings. From history we have to learn not only what our ancestors conceived and made, but also why they thought and acted so.

Once more, both as science and art, both in reflective and developmental criticism and in regenerative idea, does not history make yet another kind of appeal to us? The mountaineer, familiar with a group of peaks as they had long appeared to him in his accustomed haunts, where again and again he had climbed their summits and explored their recesses, takes a new journey; he traverses a great valley, outflanks the hills, and suddenly from a strange vantage the once familiar peaks burst again into view, but with fresh features and in new relations. He gazes wondering at the transformation as it were of some wary herd which, while he was making his circuit, had silently faced round to watch him, but yet were not the same. In some solemn maze they have wheeled about each other, and have turned other faces to the wanderer. Thus, in no extravagant figure, I hope, I have sought to convey to you the new, the strangely new, regard of the constructions of man when, by our adventures in history, we come round to see them from other quarters and other prospects. We knew our own group of ideas; we had, if you please, scaled its summits and explored its recesses; but these ideas

[1] On the occasions of these lectures portions only of a larger manuscript were read. For some consequent incoherences the author hopes to be pardoned.

now reveal themselves with fresh features and in new relations. And thus the real forms and organic plan of our own age are manifested to us as never they were before; and, whether as artists or geographers, we discover how partial was that knowledge, even of our own life, which before we had believed to be intimate and comprehensive. We do not know the full truth of our own folk, our own walks, and our own phases of life until by travel of time and space we have outflanked them, and discovered their form and growth by other avenues and in other illuminations.

Now of medicine the history is, or until our own day has been, part of the history of natural science; and, indeed, the source of that philosophy of history which regards human societies as conditioned by circumstances; a conception in which Hippocrates preceded Comte, Buckle, and Taine. He, therefore, who would interpret the documents and the history of medicine must be at least initiated into all history. Physicians of the past, as of the present, were made of common humanity, and their life in medicine was not alien from their life, and the common life of their age, in love, work, and war. In the medical historian, therefore, the sympathy of humanity must be added to the accuracy of the scholar, and these to a technical equipment in our art. And in the age of Leonicenus, of Linacre, of Caius, of Fuchs, of Foesius, of Mercurialis, we made at the Renaissance a famous beginning. But the humanists, never really friendly to science, soon began to play us false. Disliking the raw anatomy of knowledge, with what they called "The Classics" they built a walled pleasaunce for themselves and dwelt therein, raising florists' blooms and cut flowers, till Wolfe and Schliemann began to throw stones over the fence. They were of the kind of the old grammarian who said there could be no interest in a period when ἀπὸ governed the accusative.[2] In classical periods we realise our traditional ideals, but if they claim by their stationary contemplation to govern development they stifle the spirit of history, not only in forms of words and artificial categories, but also by an assumption of "common sense." Now "common sense" never verified premisses, discovered origins, or interpreted natural means, orders, or ends. A curious instance of this claim of common sense peeped out in a recent *Times* review of Mr. Jones's "Malaria and Greek History"; by this faculty the literary man supposed he could settle Mr. Jones's problem without even the pretence of repeating and verifying his researches. The study of language deals only with past experience; the past of the whole of mankind and of its chief persons, yet still of the past. New and enlarging experience is to be had not by common sense, but by new uses of the senses; and for the record of these fresh receptions new words, new phrases, new combinations of old words will be required. Thus a nation, or an individual, which is not continually returning to the direct uses of its five senses on advancing problems may collect experiences, but makes none. No small part of the labours recorded in our classical journals may have its narrow utility, but, intellectually and ideally regarded, seems to me to rank with chess problems. As studied statically, literature is deprived of the keys of growth, and of those tests of affinity whereby we learn to discriminate the formal and incidental from the essential and spiritual.

Although, then, in the first ardour of the Renaissance medical texts sprang into discovery, some were printed, and Medicine received its place in the universities as a liberal study, yet humanist fastidiousness so prevailed that no original medical texts followed those of the sixteenth century; nor did eminent scholars and commentators labour much even upon these. Naturally, therefore, among the incunabula medical history settled on its lees; the baser utilities prevailed, and, in the eclipse of Greek, Latin texts were more in demand. Hence, beside the invaluable recovery of Celsus, sprang up a thick crop of Isagoges, Articellas, and crude Latin renderings of portions of Hippocrates, Galen, Soranus, Rufus, and Oribasius, often derived through the anything but achromatic medium of Syriac, Arabian, or Hebrew. Thus, as I have foreshadowed, forms were copied; but the spirit—the return to nature—was not imparted. The cruder stuff came over, the finer evaporated.

How hardly the sacerdotal crust of the false Aristotle and Galen was cracked and split up I endeavoured in my Harveian Oration to illustrate.[3] And even when by the sledge-hammers of Vesalius and Harvey this crust was cracked the awakening was slumberous. In my own reading for these lectures I have been surprised to discover the faults of the texts, the poverty of criticism, and the sequacious dependency of medical historians one upon another, even to verbal repetition. For the edition and interpretations of our documents, as I have hinted, and as Ilberg and Wellmann have declared, the too rare combination of physician and scholar—as in our own Adams and Greenhill—is required. So it has been left to our own time—I had almost said to our generation—to see the first great edition of a medical classic; I scarcely need say that I refer to the Hippocrates of Littré. But since then our progress has become more lively. In Greek we have had the Oribasius of Daremberg, Ideler's[4] *Physici et Medici Graeci Minores*, Wellmann's *Dioscorides*, Puschmann's *Alexander;* in Latin three or four critical editions or commentaries of Celsus, and so forth.[5] To Littré and Daremberg in France, and in Germany to Diels, Ilberg, and Wellmann we are largely indebted for the impulse they have given to the re-editing of medical texts, and for the fertile culture, both linguistic and scientific, which they have brought to the task. I wish we could show in this country a like accomplishment. It is mainly, I believe, to Professor Diels, upon whom the other day in Cambridge by bestowing an honorary degree we honoured ourselves, that we owe the great project of a *Corpus Medicorum Graecorum* from Hippocrates to Paul, now undertaken by the Berlin University under the auspices of the Associated Academies, and initiated by the *Excerpta Vatioana* of Philumenos, edited by that distinguished scholar, Max Wellmann. But after all our collections, probably after all we can hope to collect hereafter, the history of medicine will resemble the geological record in its breaches, in its fractions, in its faults, and in its embeddings of ancient and precious débris in later conglomerates. Cicero's conditions "excipiente memoria, prodendisque monumentis" are in our history too often wanting (*De Div.*, I., 6).

I have regarded Rome as a vast dark background against which were projected the processions and conflicts of human ideas, as they gathered from east to west to pass before her, or through her, or to be taken into herself. It is necessary to my purpose then to see how this background was laid in; though in this place a survey of Roman origins must be so curt as bluntly to state for truths a set of opinions which, however probable, have as yet scarcely more than a provisional acceptance. The original, the lowest, and still perhaps the thickest stratum of the peoples of the region I may briefly indicate as Mediterranean, was and is a small slender dark race, long skulled, delicate in limb and feature, probably of neolithic descent, who buried their dead. This race was vivacious but not robust in body; not of large political capacity, being more factious than warlike, more clannish than national; vain and fickle but attractive, sociable, affectionate, even tender, yet wily, and with strange red veins of cruelty; but above all endowed with imaginative or at any rate with artistic gifts beyond the rest of the children of men. In the great peninsulas and myriad islands of the inland sea, and no doubt over a larger area, this race established civilisations of high culture, especially of artistic culture, which in its various modes and places is now known to us under such names as Pelasgian, Minoan, Aegean, Attic, Ionian, and so forth.

Now we are to suppose that northwards of this Mediterranean world there was an area of high pressure occupied by prolific races of alien stock, of greater physical strength and hardihood, of larger political aptitude, and perhaps possessed of weapons of iron. These various kinds of northmen were fair of complexion, and on the whole bigger of body; in temper warlike, dominant, stubborn, and ruthless.

[2] I find this construction was not a mere pedantic pleasantry. Liddell and Scott do indeed ignore it with severity; but in Sophocles the lexicographer I find many examples from Alexandrian and Byzantine Greek—for example, Porphyry, Hermas, Leo Grammaticus, &c.

[3] Science and Medieval Thought. By T. C. Allbutt, Harveian Oration, 1901. Cambridge: University Press.

[4] Ideler published this work in the last year of his life (1841-2) at the age of 33. In him we had to lament a death even more premature than of Daremberg.

[5] Another edition of Celsus is announced by the Saxon Society of Sciences under the care of F. Marx. There are rumours of the discovery of another and much earlier MS.

In contrast to the earlier race they burned their dead, and thus in later days the two customs continued side by side. We must presume that some period of time, probably a very long period, elapsed before, by their own increase or by the pressure of other races upon them, these fiercer northmen or mountaineers, as in the cases of Elam and of Assyria, became restless; pressure rose higher and higher, and the thrust southwards irresistible. Especially, as it concerns us at present, their periodical irruptions began and increased by way of the Balkans. Under the various names of Achaians, Thessalians, Dorians, Siculi, Umbrians, Sabines (probably akin to Umbrians), Oscans, and so forth, kindred tribes of warriors swept downwards on the peninsulas of Greece, Italy, and Spain, slaughtering more or less, but for the most part subduing and enslaving the more slenderly built dark people probably already enervated by peace and indolence.[6] The later descent on Rome of a coalition of "Keltic" and other tribes under Brennus is more within common memory. "Gauls" and "Kelts," in one shape or another, were probably continual immigrants.

It is important to remember that, although in the Greek peninsula the Dorians swept downwards to Sparta and the South, into the southern half of the Italian peninsula the northern tribes scarcely penetrated. From geographical causes this area was more open to occupation by way of the sea, and was thus invaded from Greece; and the history of the flourishing harbours and cities of Southern Italy indicates that it was not malaria which at that time arrested or checked the immigration from the north, but the natural features of the land and coast. Southern Italy, in the times of which we are speaking—say from *c.* 570–280 B.C., when these cities submitted to Rome—was not Italian even in name, but in name was Magna Graecia and in character was Greek; and this character, until blighted by malaria, is maintained. The Italiote Greeks held their general assembly at Heraclea; the later Thurium was an outpost of Athenian influence. The people of this region were greatly reinforced, moreover, by the flight of kindred folk chased from Greece to "Saturnia" by the Dorians and their kind. In the time of Augustus Dr. Verrall speaks still of the Hellenic city of Naples, Hellenic in its society, culture, and festivals; it became filiated to Rome late and reluctantly. I have long held the belief that rivulets of this Greek blood and culture, choked indeed by oppression, disaster, and pestilence, were yet one source of those springs of new culture which broke forth in this region in mediæval times—of the inspiration, so various in its manifestations, of Paulinus, of Telesius, of the physicians of Salerno, of the savants of Naples, and possibly of the Pisani. Frederick the Second, by the library he collected, fed these springs, but he did not make them. Dr. James tells me he thinks that before that collection there were not a few Greek MSS. in Calabria. The natives of Calabria of 1155 A.D., says Gibbon, were still attached to the Greek language and worship, and in mediæval times passed themselves off as Greek. I may note that the first professor of Greek in a Western university was a Calabrian, Legrizio Pilato, at Florence, who pretended to be a Greek of Thessalonica. He is said to have translated Homer into Latin for Petrarch. If I remember right he was forcibly described by Boccaccio as a dirty, grumbling little beast. He had the honour, however, of being killed by lightning on board a ship in the Adriatic. The archæological spade work so much needed in Calabria will doubtless reveal hereafter in richer measure the distinctively Greek works and qualities of this region; and it will do more. Even to-day the Greek walls and tombs of the fourth century B.C. laid bare on the desolate waste of Metaponto read us not only the old homily of the mutability of human things, but the new and unlearned lesson that without Medicine there can be no abiding city.

About the time of the foundation of Rome then a large under population of the slight dark people was submitted to the ascendancy of more vigorous northern tribes, of whom Umbrians and Sabines may be taken as types. But this was not all. By way probably of the Po, but thence extending over the Apennines, a strong, a strange, and a gifted people, from whom the region of Etruria derived its name (Rasena in their own tongue), had in some foretime of history, perhaps about 1200 B.C., established themselves by fortified cities in northern and central Italy. As from this race Rome took much of its nature and customs, we must digress for a moment to learn what we can of the obscure story of its origin and affinities. We shall consider hereafter the close connexion of Latin Medicine in its later history with Asia Minor, a side of the story which the recent essay of Mr. Hogarth on Ionia has set very ably before us. To proceed after my summary fashion, we will regard Asia Minor as controlled by a great power whose history lies in the mists of the past, every key to whose language is lost, and, indeed, had disappeared in Strabo's time. This power—for we can scarcely indicate it less vaguely—was in its might continental rather than of the seaboard, and the seat of its power in inland cities. It seems to have consisted in a lordship of Aryan invaders from the North, by way of the Black Sea, over native races which in ancient times, under the names of Carians, Lydians, and the like, occupied also the Levantine seaboard; and ancient records and modern researches indicate that what must have been a vast host of these people, Carians or Lydians, thrust out, perhaps, by the North Cappadocian overlords, whether by sea, as may be supposed from their place of origin, the tradition of their advance from south to north, and their Italian history as sealords, "pirates," and great traders, or, as Mommsen supposes—less probably *salvâ tamen ejus laude*, by the Balkans and Aquileja, established themselves in Italy as Etruscans[7] and brought with them not only some literature, some astronomical science, and a rich art, but also customs and ceremonies of such potency and tenacity as to have entered into the construction of ancient Roman society, so deeply as in no small part to have survived in the Roman hierarchy from then till now; for the Roman Ceremonial, as we see it, is not wholly, perhaps not chiefly, "Aryan." As, on the physical side, in their fleshy bodies ("Tuscus obesus"), almond eyes, big noses, and gorgeous tastes, so in their caste and stationary policy, customs, divinations,[8] magical and sepulchral ceremonies, dances, and festivals, this people was in character strongly oriental; and their divinations may have been witnessed by Abraham himself on his entry into Hebron. Their trumpets are said to have been Lydian, their pipes Phrygian. "Tuscos Asia sibi vindicat" was the record of Seneca. Profoundly as the Etruscans differed from the Umbrian or Sabine Roman, especially in respect of artistic faculty, yet in warlike energy, military caste, doggedness, hard and exclusive temper, aristocratic supremacy, and curiously enough in the status of their women, the two masterful races had so much in common that by their fusion Rome was created, and a permanent ascendancy established over the weaker but still multitudinous and, no doubt, somewhat mongrel people, or plebs, which we have regarded on the whole as aboriginal. We read of the "parcus Umber"—the close-fisted Umbrian; of the "tetrica et tristis Sabinorum disciplina"—the sombre and puritanical discipline of the Sabines, who were the backbone of old Rome.[9] The patricians and their flamens seem to have worshipped Sabine deities. In broad outline, then, the background of Rome, for us the soil on which Roman medicine was to be cultivated, consisted of the original small, dark race,

[6] Vide paper by Mr. Stuart-Glennie (meeting of American School in Rome, December, 1908), on a tomb of Pelasgic origin at Quinto Fiorentino (near Florence) which gives further evidence of a Pelasgic period between (as the author puts it) "the Ligurian and Etruscan epochs of Roman (Italian?) history." If I do not enter into such vexed questions as of the round and long-headed dark people of mid-Europe, and of Gael and Goidel, it will be readily forgiven me.

[7] That ornaments and utensils like those of Etruscan provenance have been found in Rhaetia is true, as I myself observed under Professor Pigorini's kind instruction many years ago, at Matrai, Trent, and elsewhere. But all bronze civilisation was not Etruscan. Moreover, the Etruscans buried their dead; the Rhaetians, like all the Hallstadt and Villanova folk (Umbrian?) cremated. The Sabine families in Rome cremated. At Matrai bronze fibulæ, coral and amber have been found together. Etruscan sway probably extended far beyond its realms, as, for instance, to the L. Benacus, the "Lydian Lake" of Catullus. The wonderful beauty and genius of their crafts are preserved for our admiration in all great museums, especially in the Vatican, in the Castellani and in Florence, and their work is described in Dennis's "Etruria" and later books.

[8] Divinations by entrails, flight of birds, &c., rather than by the astrology of the Chaldeans. Certain of the gods of ancient Rome were of Etruscan importation.

[9] The "Lanuvinus ater atque dentatus" ("with fine teeth," as we gather from the context) was probably "Iberian." This passage, to which I have lost the reference, alludes to the practice of rinsing the teeth with urine; the whiter the teeth and the redder the gums the more of this disgusting lotion must have been used! Urine has not even yet wholly disappeared from the nursery pharmacopœia; there are still crones among us who would use it, like "fasting spittle," for children's sores, and especially for chilblains.

reduced to formal or virtual servitude, degraded but still vivacious and factious, and of an ascendant and irresistible aristocracy, mainly of northern invaders, but interpenetrated by another ruling race of oriental habits. It is remarkable, and belongs perhaps to the military avocation of Rome, that while in religion the omens and auguries of the Etruscans persisted and even prevailed, their notable artistic qualities, unless in the mighty architecture[10] and cloacae, seemed under military rigour to have been blighted, or in later times to have been stifled in luxury until the Renaissance, when in Tuscany especially it reappeared. In early times they were warriors, hunters, pirates, and athletes; we all remember the later description of them:—

> "Semper inertes Tyrrheni;
> At non in Venerem segnes nocturnaque bella,
> Aut ubi curva choros indixit tibia Bacchi;
> Expectare dapes et plena pocula mensae
> Hic amor, hoc studium."
> *Aen.*, xi., 732 (vid. et Catullus, xxxix., 11).

Whether in war, in religion, in literature, or in any high purpose of man, when forms are not kept fluid by an ardent and expanding spirit, induration and corruption set in. We have spoken of one of the lessons of history—that so long as we keep mind and passion free forms will take care of themselves and be transformed in ever new revelations of beauty and strength. Thus of the so-called Iberian or Pelasgian people, the artistic and imaginative qualities, which in all the Ægean cities were notable and in Greece attained to incomparable achievement, in Rome seem to have been crushed under the weight of the State; even the melancholy harp of the oppressed seems to have been muffled or silenced. Yet, such were the undying gifts of this brilliant race to an ungrateful world, that wherever they broke forth again into some freedom, in realms—as in Gaul and in Spain—where the fury of the northern invaders was appeased; or in remoter fastnesses such as Brittany, Wales, and Ireland, where they were, so to speak, squeezed out at the edges of the conquering principalities, their song was heard again; no longer, indeed, joyous, dominant, supreme, but wistful and symbolic, dreamy and unsubstantial in the sense of uncondensed mystery rather than of chaos; yet, as in the Ireland of the eleventh century, soaring again; in Alfred and Charlemagne educating not kings only but dynasties, and in France, in Belgium, in Franconia, in Switzerland, in North Italy (Bobbio) teaching and illuminating the new Europe; so that to this remnant in the far west, as to Greece, the old phrase may be adapted[11]—*Hibernia capta ferum victorem cepit, et artes Intulit agresti.* Their creative work, like that of the Jews, if it has not gone to the making of nations, has built up the spiritual kingdoms of mankind.

And of this race, not as the artificially degraded plebs of Rome but as the spiritually free, if politically subordinate, Pelasgic Ionians of Greece and Asia Minor, we have to speak as protagonists of Medicine in the arena of Rome; Rome as we have seen her grow up—austere, masterful not in ideas but in material predominance; yet, being ignorant and infused with Oriental affinities, superstitious, and in religion ritualistic and pharisaic; a people entrenched also in a folklore and a folk medicine of their own, and worshipping a mob of pallid deities each, as elsewhere so in Medicine, personating rather than creating not only every chief system and function of the body but every stage of each. For each stage of labour there was its peculiar deity; and of limbs even the harmless, unnecessary navel had its divine warden. Thus, as Bloch says in Pagel's "Handbook," "the religious cult of Rome contained an entire pathological system"—and consecrated it. Mommsen had said also that this religion contained every function of life. Even the itch was not without its goddess. Thus for the early and religious Roman a scientific medicine was impossible. How in the decay of faith and by the immigration of the busy, curious Greek, this "cake of custom" was broken up we shall consider hereafter. Soranus bluntly declared that the obstetrician should be "ἀδεισιδαίμων." It were scarcely worth while for the purpose of these lectures, even if I had the mythological knowledge, to distinguish in the chthonian and olympian hierarchies between the gods of the Etruscans and those, on the one hand, of the aborigines, and, on the other, of the northern invaders. Into the populous circles of Græco-Roman divinity almost any new god was welcome who would play in the old game. The Etruscan worship was, however, in the main nature worship, and its deities chiefly chthonian. And among all the aboriginal Mediterranean races the chief deity was, and still is, the great and fertile Earth Goddess—Dea dia, under various names—Cybele, Rhea, Ashtoreth, Diana, Orthia of the Spartans, Artemis of the Ephesians, and so on. In his rare hymn to Diana Catullus, after saluting her as the mistress of woods and fountains, as Luna, as Trivia, as the patroness of corn and fruits, and as *Tu Lucina dolentibus Juno dicta puerperis*, exclaims:

> "Sis quocumque tibi placet,
> Sancta, nomine; Romulique
> Antiquam, ut solita es, bona
> Sospites ope gentium."
> Catull., *Carmen. Sec ad Dianam.*

And, as Mr. Hogarth points out, in the General Council of A.D. 431, when the Nestorians were condemned, the Madonna had taken this place in the hearts of the people, and has held it ever since, both in the Roman and the Eastern Church. And I may remind you of a passage in the first volume of the "Stones of Venice": "The Madonna is in great glory, enthroned above ten or dozen large red casks of three-year-old vintage, and flanked by goodly ranks of bottles of Maraschino and two crimson lamps ..... in the evening, when the gondoliers come to drink under her auspices, she will have a whole chandelier."

We cannot wonder that the Solemn City, the seat of so grave and haughty a race, mistrusted and repulsed the plausible and versatile but yet alert and intellectual Greek. When Greece was at its height Rome was the land of the soldier, the peasant, and the small trader; a people without art, literature, or philosophy. It has been aptly said that the relative geographies of the two peninsulas, Greece and Italy (for the elder Greeks the land of Hesperia), especially in respect of harbours and seafaring, were such that they turned their backs upon each other; and the mission of Rome was westward. Until the third century, except at Cumæ and a little later at the remoter Ancona, the only fair harbour on the Adriatic aspect, the contact of Greeks with Rome, if any, was only by way of the southern provinces. It was not until four centuries after the time when Rome was little more than a dyke and a palisade commanding an agricultural domain that she established diplomatic intercourse with Greece,[12] and that a Greek freedman of Tarentum became the earliest of Latin poets. After Metapontum, Tarentum, a great city upon a rock, founded by Dorians of Lacedæmon in 708 B.C., produced between 400–330 B.C., its finest coins, and led the southern confederacy until its reduction by Rome in 272 B.C.

So far, then, as we have analysed the sources of Roman medicine we discover a broad and deep but far from pellucid stream issuing from and compounded of the folklore of the small dark people we have taken as aboriginal, of the Etruscans, and of the invading northern tribes whom we may indicate roughly as Thessalian. It is obviously impossible, were it worth while, to trace Roman folklore farther and severally upward to these three constituent founts; we must content ourselves with some note of its characters as we find them in respect of medicine when Greek physicians first appeared in Rome. Into that main stream were now poured three fresh tributaries. Two of these tributaries were medicine of the Greek clinical or Hippocratean school, which again was twofold: The earlier current of Italo-Greek origin, dating from the sixth century, deriving from the following of Pythagoras, Empedocles, Philolaus, Alcmaeon, at Achaian Croton, a school second only to Cos, from Metapontum, also from the school of that great physician, Diocles of Carystus, probably at Athens; and the later but more direct current, reinforced by the Alexandrians, of which Celsus is our exponent and eminent example. The third tributary was

[10] It is said that the great temple of Jupiter on the Capitol was of Etruscan architecture; but great examples of it in enormous city walls, uncemented but everlasting, in the arch with uncemented keystone, and in exquisite specimens of jewellers' work, are well known to all travellers interested in ancient history. The Roman house is supposed to be on Etruscan plan.

[11] To speak of "wedding the Celtic vivacity to Greek technique," unless in certain late and special instances when Greek had shrunk into a "technique," seems to me, ethnologically speaking, misapprehension.

[12] The well-remembered embassy of Diogenes, Critolaos, and Carneades to the Roman Senate praying for the reduction of an indemnity. The decree of expulsion of the "philosophers," a few years previously, must be taken as a sign that Greek ideas were then spreading in Rome

the Hellenistic medicine of which Asclepiades was in Rome virtually the first, as Galen was the chief example. In an inchoate society, founded as was Rome, in the year 759 B.C. on some federative basis, the faculties of religion, law, custom, medicine, agriculture, could not be fully differentiated; and we shall see how long a time it took to release medicine from other functions, and especially from religion and custom; and even then how vehement were the later conflicts and reactions between clinical and scientific medicine, priestcraft, and folklore.

Folk medicine, whether independent or still engaged with religion and custom,[13] belongs to all peoples and to all times, including our own. It is not the appanage of a nation, it is rooted in man; in his needs and in his primeval observation, instinct, reason, and temperament. Still it is largely modified by the kind of man; for instance, in the Greek folk medicine was soon separated from theurgic medicine, and even from mysticism; so that a professional medicine was more quickly conceived and built up. The necessarily sceptical attitude of professional medicine whereby the infinite complexity of function and the baffling conditions of observation are understood, an attitude which even commended it to the subtle, inquisitive, and irresponsible apprehension of the Greek, was for the ceremonial and slow-witted Roman even more intolerable than it is for our own fellow-countrymen to-day. To folk medicine doubt is unknown; it brings the peace of security. If infallibility failed! why, the game was not played properly. From Cicero we learn, as we learn in modern Rome, the potencies of an inflexible ritual exactness. First of all, the right deity for the job had to be discovered; let us say, for fortune Mercury, Neptune for a voyage, Robigus against the mildew, and so on. Then he tells us how there was one priest for ceremony, another for formula. If a word was altered, if a flute-player rested, or if an actor stopped short, the rite was broken; all must be recommenced. Prayer and personal observance had to be no less pharisaic.[14] So in medicine; the proper god or godling had to be ascertained; then the proper formula of magic utterance to accompany the drug or operation, which, as we read in Cato and elsewhere, was to be recited with rigid precision.

Of supernatural or magical observances the more specific were "binding and loosing," the virtue of laying-on of hands, the discovery of names, lustrations, holy wells, dreams and their interpretation, temple incubation with its corresponding donaria, and the fantastic notions of signatures and symbolisms, of sympathy and analogy, of talismans; all of which observances entered deeply into early Roman as into other folk medicine of those and of later times.

[These several veins of folk medicine, worked out at some length, were necessarily omitted from the lecture.]

Having now indicated rather than described the theurgic and magical elements in Roman medicine, I will with your permission step back to take up my story again with the household and folk medicine, and particularly with the practice of Cato the Elder. The more remote and secluded the society the more freely domestic medicine flourishes, as common experience tells us. In the agricultural and pastoral provinces of Scotland, where journeys were long and toilsome, the housewife's medicine closet was the busier. The lairds and their wives "doctored and drenched themselves and their dependants with all sorts of weird and wonderful decoctions," mixed according to manuscript collections of recipes handed down from generations beyond memory. And in the English counties this self-reliance was not much less, especially among those of the gentry who rarely travelled far from home. I remember hearing that the great sportsman, Mr. Meynell, to get rid of the gout for a hunting day, would take on his own counsel two strong calomel pills and a teaspoonful of colchicum wine in a glass of hot gin and water; while the only stimulant he took with him in his flask was tincture of rhubarb. It is in some such light as this that we must regard the medicine of Cato—as one of the many arts and home industries which in early societies are not yet differentiated. Though not noble yet probably of old Sabine stock, Cato, by his rude honesty, energy, strength, and austere ascendency —*ferrei prope corporis et animi*, as Cicero says in the De Senectute—rose from quaestor to be aedile, praetor, consul, and censor. Like nearly all the old Romans, and like many Swiss landholders down to our own day, before the importation of Sicilian and foreign grain, and presumably before the introduction of malaria, he "tilled his own lands with his own hands." Now we learn from Pliny that Cato practised medicine by the guidance of a certain *Commentarium*, or traditional recipe book in many chapters, extant in Pliny's time (*Hist. Nat.*, xxix., 8), the contents of which, so far as conveyed in the Historia Naturalis, are partially known to us. Many of the prescriptions were futile, many were filthy, though in later generations they became filthier and filthier; some, however, were efficacious enough. Local and general narcosis were practised after a fashion. As we find the same or similar recipes in Dioscorides, Scribonius, and other such collections, we infer that Greek and Roman drew from the common sources of an ancient medical lore.

The best known of Cato's medical means are the homely prescriptions of cabbage and wine in various forms for almost all internal complaints, and his magic sentences, gibberish[15] which was uttered over both surgical and medical cases to expedite the cure. Now, although I have not met with the suggestion, it must have occurred to many medical readers that Cato's cabbage, in days when fresh meat was not to be had in winter, or certainly not by the lower orders and the slaves, probably acted very effectively as an anti-scorbutic, and that by this virtue its repute as a medicine was made and sustained. The cabbage—*Olus* under its more general name, more specifically *Brassica*—was regarded seriously as a remedy long before Cato's time; by the Etruscans, for instance, and by the Greeks—at any rate, by the Sicilian Greeks of the tradition of Pythagoras, as by Epicharmus, a pupil of Empedocles, who wrote a treatise in the Doric dialect in which cabbage was thus recommended[16]; and, indeed, by physicians of no less distinction than Diocles, and Chrysippus the master of Erasistratus. If, then, Cato erred, it was in good company. The variety in use as a medicine in early times was probably the colewort, or sea cabbage, which has a slenderer leaf and a more bitter taste.

It may be asked why we should occupy ourselves with Cato, who, whatever his merits as a patriot, was, from the point of view of scientific or artistic culture, a gruff, obstinate, narrow-minded rustic, whose violent denunciations of Greek physic were but illiterate prejudice. I think in this respect historians have done Cato some injustice. In no small part we, as physicians, have derived our impressions of Cato from the babbling of Pliny, who had the vanity and garrulity of Boswell without his reverential sincerity. But in Plutarch we have a truer appreciation of Cato. It was said that he took to learning Greek "in his old age"; "belike fearing," as Sir Philip Sidney puts it, "that Pluto understood not Latin"; or, as Professor Mackail suggests, because of his admiration for the younger Scipio. But Cato was no such ignoramus; on the contrary, for his time he was a learned man. His stoicism, stern and inhuman as it was no doubt when compared with the milder interpretations of Panaetius, he owed nevertheless to Greece. And, before Celsus and Varro, he was an encyclopedist—a "summist," whose chapters, not only on military matters and agriculture but also on law and history, were extant and respected in Cicero's generation. After his African campaign, and some nine years before his consulship, he discovered Ennius in Sardinia, brought him to Rome, and learned Greek of him at an age nearer 30 than 80 years. So that his Greek studies, were they more or less, extended over some half-century of his life. So far, then, from regarding Cato as a narrow and arrogant boor, may we

[13] Mr. Warde Fowler points out that the rites of Rome, whether Etruscan or Old Italian, are to be regarded separately from the religion, much of which came from other sources.

[14] I read this year in a certain church, and over the signature of an eminent archbishop, that 40 days of Indulgence would be obtained by saluting a particular crucifix, and reciting one pater and one ave. But for one unable to go to this image 20 paters and aves would be required: one for each of the 14 stations of the Cross, five for the five wounds, and one "à l'intention du saint Père." Thus tenacious is ritual tradition. In the recent controversies around the death-bed and burial of the late Mr. Tyrrell much curious matter of this kind was notable.

[15] From our point of view, gibberish; yet even gibberish may have its specific interest. It is probable that not Cato's incantations only, but those also of other times and peoples, are the degraded remains of some ancient tongue. Cato's "Daries, dardaries, &c. ....." may be remnants of Etruscan?

[16] Vide Schneider, Script. rei. med. Brassica = *κράμβη*, "crambe repetita"; in the late Greek lexicon of Sophocles, *κράμβιν* = *κράμβιον*, cabbage.

not come as near to the truth if we regard him with Ennius as one of the founders of Roman prose, and put him in some low degree of comparison with Petrarch, whose diatribes against physicians were no less unmeasured and indiscriminate? Can we be surprised, on looking back to their several epochs, that the harsh puritan and the petulant humanist, the one and the other alike without scientific insight, denounced the parade, the greediness, the luxury, and the glosses of medical adventurers as they saw them? If Petrarch could not understand or foresee the growth of the scientific thought of his own age, shall we blame Cato for that he did not foresee Asclepiades or Galen, nor perceive that in 150 years Rome would be dependent on Greeks not for medicine only, but also for its science and philosophy, and for much of its exquisite and derivative literature? "Belike" Cato, had he foreseen it, might have thought these Danaan gifts dearly bought at the cost of a sterner patriotism, of honour, and of righteousness. However, in all military periods of society—except, perhaps, that of Athens—the craftsman, whether of fine or practical art, has been regarded by the noble warrior with contempt; even *schola*—leisure itself—in such a period is humble.

It is improbable that Cato, versed as he was in annals and customs, would have accepted the absurd assertion of Pliny that for 600 years Rome had done without physicians, a new-fangled order, and, moreover, a canker in the State. Rome, in all its wars and plagues, must have had more than a domestic medicine, some accredited practitioners, even if of a Homeric order. For example, even in the reign of Numa the Cæsarean operations both for removal of a living child from the dead mother, and conversely, were imposed by law.[17] A liability for this service in case of urgency was imposed upon all citizens, it is true[18]; but these and other operations, such as the semi-sacred operation of trepanning, those for fractures and dislocations, for fistula, stone, &c., which we know were regularly and successfully undertaken, were no doubt as a rule committed to persons of professed dexterity. We know that there were many Greek physicians in Rome in Sulla's time; and certainly in the first century before Christ the "medicus" was plainly distinguished from the crowd of barbers, quack salvers, and wizards, for in the *Digest*, L. 13, 1, we read, "Medicorum quoque eadem causa est quae professorum nisi quod justior," and the law goes on to include orderly specialists, as for the eyes, ears, and teeth, for fistula, &c.[19] But "Non tamen si incantavit, si imprecatus est," which are not of the kind of medicine. To do more than note probabilities concerning ancient times of which we have few historical data is otiose; and it is only too certain that in and after Cato's generation many, perhaps most, of the medical adventurers who flocked to Rome were a gang of impostors who stank in the nostrils of high-minded men. Notwithstanding, secluded as early Rome was, it seems impossible that the learned and honourable traditions of the medical schools of Magna Graecia, of Alexandria, of Cnidus, and the rest can have passed over and around Rome, even into distant provinces of the West, such, for example, as Marseilles, &c., and yet left the Mother of Nations—not even then a very simple society—as if they had never been. Pliny was talking of times long before his own, yet he knew enough of Chrysippus, at any rate, to abuse him, and gives his case away when he says: "*Non rem* (*medicinam*) *antiqui* [our ancestors] *damnabant, sed artem* [the craftsmen]." How can we say there were, and had been, no physicians in Rome before Archagathus, when in the time of Plautus, the contemporary of Cato, we note the Greek cast of his plays, and note specifically such remarks as "*Ibo ad medicum atque ibi me toxico morti dabo*," though we can apprehend Cato's angry repudiations of them. Plautus speaks also of the Roman coin numus (*nummus* = about 1*s*.) as being not enough for a doctor's fee (*plus jam medico mercede est opus*). Again, Amphitryon exclaims, "I have looked for him in the market-place, in the spice shops ..... in medicinis est tonstrinis."[20] There is in Plautus a good deal more of medicine with a colour so local that it clearly was not a hearsay medicine from Greece. Let us turn, for instance, to the fussy doctor in the Menaechmi—written 200 years before Christ—making his visits and boasting of his grand patients. He appears, moreover, to have had a Home in which he received sick persons for special treatment—"*Ad me face uti deferatur. ..... Soin' quid facias optumum?*" (that is, for a course of hellebore for twenty days). Lucilius again uses many medical words and phrases—not a few, such as cataplasm, &c., taken from the Greek, as if Hippocrates had been filtering in between the generations of Ennius and Lucilius. We note from Plautus also that skin diseases were evidently rife in those days of dirt—*Serpere uti gangraena mala atque herpetica possit*.[21]

Varro (Marcus Terentius) was a full century younger than Cato; he belongs indeed to Cicero's generation, yet he remained a Catonic sort of person; he also was a "summist" of the kind which in Rome Cato initiated, and Celsus, and may we not add Virgil, whose Georgics were written about the same time in Rome, carried to its culmination. In Varro's nine *Libri Disciplinarum* medicine was the eighth book. In the time of Cicero, who was well versed in medicine, and even in that of Aulus Gellius (Noctes Att., xviii., 10), a knowledge of the broader truths of medicine, and especially of bodily hygiene, was still considered part of the education of a man *liber liberaliterque institutus*; smatterings which, in the contemptuous phrase of Galen, had degenerated into "philiatry." In the volume of his output Varro almost equalled Galen; but all is lost, except his *De re rustica* and a few fragments. He seems, however, to have given to Rome less of medicine than of literature, antiquities, and "natural philosophy," especially mathematics; while to popularise "the higher philosophy" and rhetoric was Cicero's work. However, Varro says much on the salubrity of sites; and Haeser draws attention to the following remarkable passage: When the fleet and army of Pompey were at Corfu a pestilence broke out, and the houses were full of sick persons and corpses. Varro, however, "immisso fenestris novis aquilone, et obstructis pestilentibus, januaque permutata, caeteraque ejus generis diligentia, suos comites ac familiam incolumes reduxit."

While such was the general medical equipment of a Roman gentleman, and while also under the Republic we read of *medici* rich enough to own slaves, yet the technical practice was chiefly confided to domestic slaves. But we are not to suppose the slave of those times to have been what the haughty Roman took him for, nor to judge him on our prepossessions derived from negro slavery. The Roman medical slave was usually a Greek, and his price, by law fixed at not less than 60 minae, was a high one. The slavery was a convention enforced by the hardness of the times; the captive was not usually of an inferior race, but in brains as well as in dexterity often superior to his owner. His bondage was an accident; for on manumission his personal qualities often commanded such professional success and independence as to dissipate the sense of gratitude and attachment, and thus to give some check to manumission whereby valuable services were often lost to the patron. Conversely, whatsoever the personal virtues of the slave, the debasing pressure and conventions of that status must have thrown some shade upon his character, so that too often the Greek, by nature slippery and inconstant, as a freedman—and even between the *libertus* and the Roman there was still a chasm—betrayed himself as a stealthy and venomous rascal.

Of medical colleges and public medical offices I will treat hereafter, but, speaking generally, it is true that in Rome itself there was no kind of professional test or standard to discriminate sharply between such medici as the gentle and accomplished freedman Antonius Musa or the botanist Lenaeus, and villains like Vettius. As manners softened and intelligence and skill compelled recognition the position of these slaves and freedmen improved, especially under the enfranchisements of Julius and Augustus, but their calling

[17] Compare the old legends of Zeus and Athene, of Bacchus (in Virgil and Ovid), and even of Æsculapius, as well as such celebrated cases as those of Fabius and Scipio Africanus.

[18] In the Lex Regia, "si mater praegnans mortua sit fructus quam primum caute extrahatur.'

[19] The very word "medicus" itself is of early Italian derivation.

[20] Plautus speaks also of interpreters of dreams and omens and of a charmer against disease—"praecantatrix." That the midwife should be "manibus puris, capite operto" applies, I fear, rather to religious rites than to antisepsis. The midwife of the clandestine confinement in the Andria of Terence was a drunken slut. I need scarcely direct the reader to Ménière's delightful books on medicine in the Latin Poets, and in Cicero.

[21] Cancer, of course, was well-known from early times; Ovid's "Utque malum late solet immedicabile cancer Serpere" is, if an apt, of course, a late allusion to it.

could not well progress nor gain public recognition as *ars prudentiae majoris*. Thus it was that, even under the Empire, Roman medicine remained almost wholly Greek, for the few physicians, such as Scribonius Largus, who bore latinised names, were nearly all of them Greeks.[22]

How are we, then, to explain the enmity of Cato; and the malice of Pliny who, while he endeavoured to ignore the physicians, could not refrain from signifying by his indiscriminate if not wholly unjustifiable abuse that they existed, and among the "antiqui" had existed, only too abundantly? Now, the fault of these physicians was not so much that they were crafty and rapacious as that their craft and rapacity were not of the Roman sort. As the physicians in Rome were practically all Greeks, their ideas were Greek, so Greek that no Roman could enter into them; furthermore, these Greek notions were not only mischievous in medicine, but in their more general tendency were socially subversive. The scent of a ruling class, secular or ecclesiastic, for inquisitive or esoteric opinions is amazingly keen, and its resentment ruthless. How haughty, ruthless, and unreceptive was the temper of the conquering races in Rome, how sacred were their religion and rites, how rooted their superstitions and folk medicine, how obstinately impermeable their qualities and customs to new ideas, and how incapable of elastic adaptations, we have already seen. We shall not wonder that all these conservative opinions and instincts should have incited, especially in Republican Rome, an alarm against foreign ideas. The old Roman of the type of Cato, austere and imperious as he was, was also, consciously or subconsciously, apprehensive of the instability of his State. Built as it was, not only upon slavery but also upon the quicksand of a restless, excitable plebs, mostly of alien blood, its security could be maintained only by the rigidity of the old iron will, consecrated tradition, military framework, and hardy strenuous habits. Thus the dominant class was clinging fiercely to creeds and rites whose validity they dare not suspect, and to intellectual conventions which, already sapped by Hellenic curiosity, were ultimately by Christianity to be overthrown. This issue the old Roman dimly but uneasily foresaw. And is it too fanciful to surmise that no less dimly, but by some community of racial instincts, the bent of the subject or plebeian Roman was apt to assimilate the notions of his distant kinsfolk of the Aegean, and to be stirred by the fickle passions, the irresponsible wit and faction of that clannish primeval race then, as before and since, intolerant of rank, though submissive to despotism? Such may have been Cato's presages; such, at any rate, was the upshot. For with spoils came luxury; with the deletion of Carthage ease and security; with intellectual curiosity the sapping of creeds and the decay of patriotism. It is scarcely true, I think, to say that Rome was unstable for lack of a middle class; the equestrians took some such place; the instability lay in the rift between the upper classes and the plebs, an unassimilated and naturally turbulent mass, mixed with the nation but not mingled or organised with it.

NOTE.—The bibliographical references are reserved for the fuller and more formal publication of these Lectures.

LECTURE II.

PRESIDENT AND FELLOWS,—As Coleridge said of Greek literature so of Greek medicine, it is "a superfetation upon and not an ingredient in the national character." The first physicians to wend their way to Rome were of those who we know were employed about the gymnasia and the arena.[23] But on the common knowledge of the standard histories, the *trita scholarum*, I will forbear to dwell. Archagathus arrived in Rome about 220 B.C., some 20 years after the Punic war for the cornlands of Sicily. He was one of the first to feel the brunt of Roman indignation at the blasphemy of mistrusting the protecting gods, and at the impiety of supplanting the tried resources of the Penates. Was it only this prejudice which turned his title of "Vulnerarius" into that of "Carnifex"? Was he a barbarous surgeon or was this story only Pliny's fun? For, on the other hand, he certainly was accepted as a Roman citizen, and a *taberna* was assigned to him at the State expense in the city near the Forum Marcelli. Whether or not he was subsidised as a public physician—δημοσιεύων—after the Greek fashion is an interesting question, for if so, as we shall see later, this office must in Rome itself, though not in the provinces, have fallen soon into desuetude.

Passing from Archagathus over obscure names and traces, I would concentrate our attention, in respect of the effective invasion of Rome by Greek medicine, upon the great name of Asclepiades. It is one of the flouts of time that the reputation of this great physician had fallen, not only into neglect, but even into obloquy; and the belated duty of restoring his name and place, after the lapse of nearly two thousand years, to their merited honour has been reserved for our own times. I say after nearly two thousand years because, although Asclepiades was born somewhere between 130 and 124 years before Christ, and 30 years later was famous, yet his fame suffered no eclipse until the star of Galen arose; then the torch of Asclepiades was quenched. Never a voluminous writer, his works, scarce by the fourth century, by the sixth century were lost; so that his reputation was at the mercy of any idle scribbler whose malice was thus placed beyond direct confutation. Something like the same neglect befell Celsus, whose treatise on medicine was also practically lost until the fifteenth century, when it was rediscovered, as it is said, by that respectable Pope Nicholas V. The facts according to Sabbadini, are that the first and less correct MS. was found at Siena by the humanist known as Il Panormita; the next and better one came to light soon afterwards in the Ambrosian Library. Portions of Celsus, however, had probably survived also in the obscurity of monkish closets. The work was not printed until 1478, at Florence. It is interesting to us to note that Politian took some pains with the text of Celsus, and that among those who attended his lectures were Grocyn and Linacre.[24] But Celsus was a Roman gentleman and a layman, whose treatise on medicine did not arouse any jealousies, and whose credit was safe with his own coterie. The spiteful arrows of Pliny were shot elsewhere. Neglect, therefore—unmerited neglect—might, and did, overtake Celsus, but not contumely.

It may be that this earthly orb, when it judges, judges securely; but it takes an unconscionable time to consider its judgments, and too often meanwhile this loss of documents arrests the course of its justice. Six hundred years ago, when the path of secular knowledge was the path to persecution or to the stake, flourished, or tried to flourish, Roger Bacon, the friend of Grossetête and Adam Marsh, one of the most masterly spirits of any time or people, and one of the boldest and most unfortunate champions of the emancipation of the human mind. Yet last year the historical school of his own university knew no better than to represent Bacon publicly as a buffoon. So much for humanism. And if this be true of modern history, what may we expect concerning the submerged scientific geniuses of two thousand years ago! Now I will not compare the memorable talents of Asclepiades, whose reputation for something like this interval has been under eclipse, with the genius of Bacon; nor the career of that favourite of kings and harvester of fees with the bitter bread of captivity and the ironical denial of the currency of the pen to the bounty of an unconquerable mind; yet, had Asclepiades been a smaller man than in fact he was, for the sake of historical truth no inconsiderable measure of justice would still have been his due.

Asclepiades may remind us in many respects of Boerhaave. In the one case and the other affable manners, good fortune, and worldly success threw a glitter of vulgarity over a career of rich practical and philosophic attainments, versatility of mind and temperament, rapid clinical perception, and sagacious insight into the conditions of health and disease; these were the endowments of both men, and in them approached, if they did not quite amount to, original genius. We meet with the curious coincidence that, in his first dissertation, Boerhaave also occupied himself in part with the philosophy of Epicurus. To Boerhaave ingratiating manners, elegant accomplishments, and popular vogue and fortune became no reproach; but in Asclepiades these qualities have been construed into sycophancy, sophistry, chicanery, and avarice. It may be said that

[22] Sextius Niger and Julius Bassus, in Cæsar's time, are said to have been Romans, though, as the fashion was, they wrote in Greek.
[23] Aulus Gellius, Noct. Att., xii., 5.

[24] Sandys's Hist. Class. Schol., ii., 83.

Asclepiades lived a long time ago; that his contemporaries knew him better than we can do; or, anyhow, that there is no use in worrying over dead issues and obsolete reputations. We shall see, however, that Asclepiades occupies not only a high but a cardinal place in the history of medicine. Broken as are the lights in which for us he stands, yet his is the first figure which stands forth under any illumination since the dispersion of the greatest schools of Greece. The great names of Herophilus and Erasistratus are but shadows. Again, in so far as history is, or is to be, a science, or even morally true, no fact is to be taken of its apparent dimensions. Now the cardinal moment at which Asclepiades flourished was that of a new outpouring of Greek philosophy and medicine into the alien air of Rome. The meaning of his career contains, therefore, much of the meaning of the age in which he lived, and of which he was a type; and, if the report of his contemporaries were coloured by envy or prejudice, our view of the period and of the course of the history is so far perverted. We must weigh the value of each witness, and compare the witnesses one with another, remembering that *calumniare audacter, semper aliquid haeret.* Moreover, we must not give too much latitude to the word contemporary.

About 130–124 B.C., then, Asclepiades was born, at that interesting city Prusa, in Bithynia; so that he was about a generation older than Lucretius. His name indicates that his family had some connexion with the medical calling. But the name was no uncommon one; of his time 14 persons are known to have borne it, and it seems the physician, himself an eloquent man, was confounded with another Asclepiades, a rhetorician; whence arose Pliny's spiteful legend that, having found rhetoric unprofitable, Asclepiades had turned to medicine with a sophist's adroitness and the ignorance of a layman. But to rectify our definition of a contemporary, it was about 70 years after the death of Asclepiades that Pliny was born; and the prudent Celsus who lived a little earlier, though none too willing a witness, says of him that "*Medendi rationem ex magna parte mutavit.*" Asclepiades has suffered the more in reputation with modern English scholars as Greenhill, lately the honoured friend of some of us, and in medical history the revered teacher of us all, in my opinion and that of others, accepted too readily the irresponsible invective of Pliny, and the current estimate founded upon his testimony, reinforced by certain strictures of Celsus and Galen which were animated by controversial strife, not by moral censure. With such doctrinal differences, and the schisms which gave rise to them, I will deal presently. Suffice it to say now that for Asclepiades medicine was no afterthought; from his youth he was educated for our profession. In Wellmann's[25] opinion he was not only thus educated at Athens, as we now know, but probably at Alexandria also. It was from Athens that he brought to Rome a theory of medicine founded upon the atomistic philosophy of Democritus, then passing under the name of Epicurus, and soon afterwards to be transfigured in the shining car of Lucretius.

As in England the adverse view of the life and doctrine of Asclepiades received the sanction of Greenhill, it is from him that I must curtly present it. In his well-known article in Smith, Greenhill says, "Asclepiades may fairly be characterised as a man of natural talents, acquainted with human nature, or rather with human weakness, possessed of considerable shrewdness and address, but with little science or professional skill. He began (upon the plan which is so generally found successful by those who are conscious of their own ignorance) by villifying the principles and practice of his predecessors, and by asserting that he had discovered a more compendious and effective mode of treating disease *than had been before known to the world.* [Italics mine.] ... He directed his attacks more especially against the writings of Hippocrates." Greenhill then proceeds to argue that the methods of Asclepiades owed their popularity to his assiduous attention to everything which contributed to the comfort, flattered the prejudices, and indulged the inclinations of the luxurious classes. "We cannot fail," he adds, "to recognise in Asclepiades the prototype of more than one popular physician of modern times." This is tolerably scathing; and I suspect the distinguished critic, who was better versed in medicine than in philosophy, was not indisposed to use this parable of Asclepiades for the chastisement of certain professional vices of his own times. Dr. Withington, who may be said to represent opinion as now prevalent, with a more even verdict but still with an ironical pen, sides, on the whole, with Greenhill. He, too, is not unnaturally angry with Asclepiades for his revolt from Hippocrates. Nevertheless, during the last century there were not a few writers to take a more respectful view of Asclepiades, both as to his virtue and ability. The first scholar to qualify my own estimate of Asclepiades was that brilliant friend of my youth, Maurice Raynaud, snatched so prematurely from his friends and from medical science.

At a much later date, some half-a-dozen years ago, a tract by Dr. v. Vilas came into my hands which made a radical alteration in my estimate of Asclepiades. It may be true, as Max Wellmann says, that v. Vilas was not sufficiently equipped with learning to do full justice to his theme; still Wellmann's standard is a high one; and a pioneer such as v. Vilas may on a humbler scale deserve very well of us. He put his points well, and supported them with no inconsiderable information. Moreover, he did the reader the service of putting him in the way to discover the earlier literary testimony. M. Albert also, in his *Les Médecins Grecs à Rome*, has given a balanced and better informed estimate of the place due to Asclepiades; and Fuchs (in Pagel) and Neuburger (the latter especially, whose work I had failed to consult until this lecture was under correction) have dwelt more adequately on the evidence for a far different interpretation of his character and talents; yet even these authors realise imperfectly the weakness and bias of the persistent detractions. *Aliquid haerebat.* The last and most convincing vindication of the place of Asclepiades in history is the essay by Wellmann to which I have already referred. Without claiming for Asclepiades a measure of magnanimity far beyond the easy standard of the age in which he lived, we shall remember, nevertheless, the gross licence of backbiting and invective then tolerated, nay, even customary, in Rome. Of this extravagance we see colossal examples in the forensic orations of the time, even in those of men as cultivated and humane as Cicero; and in cases where we have better means of knowing the truth than remain to us in the instance of Asclepiades. Moreover, in the latter days of Athens and Alexandria, Hellenism, settling on its lees, had become more and more artificial and disputatious, more and more charged with schismatic animosities. In these passions of opinion reputations were indiscriminately devastated.

It is narrated of Asclepiades that one day, passing along the street, he saw a body stretched upon a bier, on the way to burial. He interfered, perceived some sign of life in the body, and applied restoratives; the supposed corpse quickened and the man was made whole. The multitude acclaimed Asclepiades as a god—to the annoyance, no doubt, of rival practitioners. This story is used in building up the accusations of charlatanry against the too lucky physician. But we know nothing of the circumstances which led Asclepiades to intervene, nor do we know how he carried himself under the adulation. What we do know is, that to expose the sick and dying on the highways for the chance wisdom of the passers by was an ancient and familiar custom. Moreover, we know, from a passage in Galen, that Asclepiades, as Herophilus before him, had devoted especial attention to the pulse. Another, and I think the only other, evidence alleged for the charlatanry or wily complaisance of the Greek is that in a time of growing luxury he made his therapeutical means also luxurious; that he laid aside coarse and drastic remedies for gentler means—for regimen, baths, diet, exercises, and so forth; and that he introduced these changes in Rome with the manners of Boerhaave and Mead rather than of Radcliffe and Abernethy. But it seems not to have occurred to historians to consider whether these mitigations of practice were supple concessions to a voluptuous generation, or were consistent with a new and revolutionary doctrine, not of his own invention, but a fountain from the Alexandrian stream of thought, which drew upon him the hostilities and revenges which pursue innovations and innovators. That Asclepiades should have lifted up his voice against the sacred head of Hippocrates has made all historians, from Celsus to Dr. Withington, righteously indignant; and not without some reason. The leader of the Hippocratean school had seen

[25] Wellmann, Report of Congress, Köln, September, 1908, Münchener Medicinische Wochenschrift, Oct. 15th, 1908.

certain aspects of pathology with the eye of genius; Asclepiades saw another—a smaller side, if you please, but not fictitious. Yet there is no evidence that his opposition to Hippocrates, as construed by the Dogmatists, was embittered by personal acrimony; it seems to have been in the form of argument, and of sarcasm pointed by epigram. It is indeed a little curious that he should have called the Hippocratean expectancy a study upon death (*θανάτου μελέτη*), seeing that his own movement had been from dashing therapeutics to more rational and temperate methods; but this very discrepancy seems to mark his polemic as petulant rather than impious, while Galen's arrant teleological convictions were outraged by the flippant quip that Nature was as ready to kill a man as to cure him. But in moments of temper have not some of the modernest of us said the like? The fragments of Asclepiades, who is quoted by about thirty-three authors in various fields, in which passages, moreover, ten more references are embedded, were collected by Gumpert in 1794. The chief sources, however, are only four—namely, Celsus, Pliny, Galen, and Caelius Aurelianus; and of these Caelius Aurelianus is the most important. Unfortunately, such has been the ill luck of Asclepiades, that for many generations the writings of Caelius Aurelianus were lost, or concealed under corruptions of his name. By the same misfortune much of our knowledge of Soranus and of the history of the sect of the Methodists lay long in obscurity.

A modern writer on medical history has made the interesting remark that as celestial bodies, while themselves invisible, may in some measure be recognised by their influences upon the paths of the bodies visible, so phases of the past of which, as in the case of Alexandria, the records are lost, may in some measure come into our ken by certain otherwise unaccountable deviations of recorded periods. We must endeavour, then, to calculate from the orbits of medical thought and practice which we can plot out, those inferences which, in the absence of records, may give us some notion of the history of medicine during the blank period between Hippocrates and Asclepiades; and for a moment I must revert to the geographical aspects of the problem. We have seen that before and during the period which we may briefly call the Homeric the western seaboard of Asia Minor was not Greek; it was an outlying border of an inland power then strong enough to hold it against western encroachment. Miletus, for example, was for the Greeks of that period a city of the "barbarously-speaking" Carians; although the Carians were experts in certain delicate arts, yet they spoke a tongue unknown to the Achaeans. Mr. Hogarth thinks that the north-west corner of Asia Minor and Rhodes—Ialysus, Cameirus, &c.—first became Greek. As the inland overlords—probably the Hittites, Aryan invaders from the north, who were not a seagoing people—began to lose grip and shrunk away from the seaboard, the fitful raids of the Ægean people became consolidated into permanent colonies. How these colonies grew into the magnificent cities and intellectual and artistic centres of Ionic Greece—centres which retained their vitality through many vicissitudes down to Byzantine times—there is no need for me to describe. The Alexandrian Empire began about 50 years after the death of Hippocrates, and Alexandria became the centre of trade and intellectual activity; yet Attalid Pergamon was almost comparable with it for culture. The swift advance of Greek science in Alexandria is comparable with the bloom of Greek art in Athens; Euclid, Archimedes, Aristarchus, Hipparchus, Ptolemy, Heron, and other men almost as great, carried the sciences forward, especially astronomy and physics, with astonishing effect, and the great school of medicine sprang up which produced Herophilus and Erasistratus, to us almost mythical names; so illustrious was their fame, so little are they known to us. Our reasonable hope that the discoveries in modern Egypt would bring forth some records of Alexandrian medicine has so far been disappointed. At the time of the foundation of the school of Alexandria the tradition of Hippocrates was probably in full vigour, a tradition, that is, not so much of formal doctrine as of observation, comparison, and suspension of judgment. For, although it is true that the humoral doctrines were held speculatively, yet the observant reader will perceive in the best Hippocratean treatises how little of the practice was derived from *a priori* applications of them. This pedantry grew up with the Galenists. But we know from this positive medicine, as from religions, how under the Alexandrian mixture of Greek and Oriental tendencies—especially of platonic and pythagorean ideas—certain notions, in medicine, the humoral doctrines especially, crystallised out in exaggerated shapes; and how principles and even words becoming detached as abstract dogmas and terms, gained acceptance as forces or as entities. Hence these later traditional teachers became known as *λογικοὶ—dogmatici;* medicine became more than ever interfused with philosophy, and probably the Timaeus, as Hauréau said, a bad training ground for ignorant men, began to impose itself upon physiology, as it did in the Middle Ages. To these tendencies were added from the East other influences also, of still worse consequence; motley mysticisms and occultisms, emanations, astrology, and the whole apparatus of demonology. From Pharaonic Egypt medicine probably received little, for good or harm, unless it were the accumulation of drugs; medicine under the Pharaohs was dried and sterile, and the anatomy of the embalmers was as rudimentary and pettifogging as a quartermaster's astronomy.

These extravagances, as was natural, resulted in the empirical reaction to which I shall allude presently. Meanwhile we may turn to the Greek tradition, not purely Hippocratean, but generally speaking almost free from sacerdotalism, on which Herophilus and Erasistratus were nurtured. The formal attempt to contrast the schools of Cos and Cnidus, and to allot to each its several system of argument and practice, fluctuating as such doctrines must with the inclinations of the more eminent leaders, was perhaps never a very profitable inquiry, and in the absence of almost all considerable documentary data it is in the opinion of Haeser impracticable. All we can safely assume is that on the whole the Coans were disposed to have regard rather to the general state of the patient, the equipoise of his functions, and the external conditions, such as climate, whereas the Cnidians were disposed to give more attention to the organ affected, and so to rely more on local than on constitutional means of cure. In our own terms we should say that the Cnidian would have discouraged general pathology, and that reliance in prognosis and therapeutics on the whole man, on the *vis medicatrix Naturae* (*νόσων φύσις ἰατρὸς*) was a Coan point of view. Asclepiades, instructed in the physics of Alexandria, cannot but have recognised the tendency of moving systems to regain equilibrium, and from his practice it is evident that he protested, not against this beneficent bias, but against the teleological way of putting it. And for Aristotle himself, in distinction from Galen, it is no less just to admit that "teleology" meant no more than an analysis of statical relations, that the bodily functions knew no end outside themselves. From allusions in Aretaeus, Galen, Caelius Aurelianus, and other authors we apprehend that at the time of the rise of the school of Alexandria both these earlier schools, Coan and Cnidian, were in activity. The son-in-law of Hippocrates, Polybus, in magnanimity, sagacity, and experience worthy of his noble kinsman, had carried forward the Coan school with signal success, and we cannot suppose that so eminent a physician as Diocles, though resident at Athens, could have been without considerable influence on the rising Alexandrian school. Diocles was too wise and too experienced a man to be a partisan, yet, as a platonist, his influence may have helped towards this bias in Alexandria; he may have sent them a copy of the Timaeus? Praxagoras of Cos, the first physician to teach the value of the pulse, was the master of Herophilus, who, and whose scholars, were accordingly, with more or less truth, regarded as in habit of mind Coan; while, as Chrysippus the Cnidian was the master of Erasistratus, he and his scholars were reckoned on the side of the tradition of Cnidus. In nearer proximity were the important schools of Magna Graecia and Sicily, of the great disciples of Pythagoras and Empedocles. Herodotus speaks of Cyrene and Rhodes as the two great medical schools of his time. It is probable that the inclination to anatomy was carried into Alexandria by the influence of Diocles and Praxagoras; for, although Galen respectfully banters him on the roughness of his dissections, Diocles was no inconsiderable anatomist. He is best known as the discoverer of the *punctum saliens*, but he carried the distinction between the venous and arterial areas beyond Aristotle, and traced the course of some of the glandular ducts. His

anatomy, like that of Galen, was of animals only; it is the distinction of the Alexandrians, on the advantages peculiar to their city, to have founded the anatomy of man. Unfortunately, too soon afterwards human anatomy—never practicable, perhaps, in Athens—became again impossible, and what had been gained in Alexandria must have been, as physicians are wont to say now of pharmacology and experimental psychology, too far from the sphere of practical medicine to be of coöperative service.

In discussing the later sects, in some of which anatomy was thus repudiated as otiose, we must remember that Daremberg, rather against the impression given us by Galen, was of opinion that up to the time of Asclepiades the school of Erasistratus had prevailed over that of Herophilus; and such also is my opinion, so far as this, at any rate, that the Erasistratids seem to have been commonly accepted as the "progressives" and the Herophilids as conservatives. This point is one of some little importance, as we shall see. It is known that during the life of Asclepiades some of the disciples of Erasistratus founded a medical school at Smyrna; and whether it be true or not that Asclepiades studied in Alexandria, which, in spite of the loss of its political importance on the shift of the centre of political gravity to Rome, was still a seat of cosmopolitan learning, a hive of Romans, Greeks, and Jews, we do know that he began his medical studies in Ionia, where in his time were the great cities and great schools of which I have spoken.

Now, in consequence of intrigues and persecutions in the early Ptolemaic period of Alexandria, many philosophers, physicians, and men of science were exiled or left the city. Certain of the emigrants settled in Asia Minor and founded or developed these medical and other schools in Ionia and Syria; as, for instance, at Laodicea, and so forth. From the earlier of these schools issued many eminent physicians, among them Alexander Philalethes and Cleophantus, who was one of the masters of Asclepiades. From the school of Laodicea came the oculist, Demosthenes Philalethes, whose renown was great in the Middle Ages. Now Cleophantus is mentioned by Pliny himself (N. H., xxvi., 8) as recommending wine as a medicine; an ancient remedy adopted by Asclepiades also, and imputed to him for unrighteousness. The school of Laodicea was founded by followers of Herophilus, so that Themison cannot have been deeply imbued with the doctrines of his birthplace; that of Smyrna, founded by one Hicesius about 50 B.C., when Asclepiades was an old man, was, as I have said, Erasistratean, so that these principles were still flourishing. Now we are told that Erasistratus, after his master Chrysippus of Cnidus, vigorously opposed the abuses of venesections, of purgation, and of emetics and clysters; Cnidian mitigations which in Asclepiades Pliny wrathfully denounced as cajoleries, for how in the face of a disease with horns and hoofs could any honest physician dare to stand prating about "Cito, tuto, et jucunde"—the well-known formula of Asclepiades! Again, Erasistratus laid stress upon diet, regimen, and exercises; and it is to be noted that he originated that initial abstinence which Asclepiades, and after him the Methodists, made so much of at the commencement of a cure, and which Galen indeed approved. The disciples of Herophilus, on the other hand, as we note also in Galen, were much more addicted to venesection and to a profusion of drugs. Herophilus himself, indeed, seems to have been a somewhat severe practitioner; but he retained the Hippocratic reliance on clinical observation, and was the first physician to watch the pulse and to describe its characters, even with excessive refinement.

By these considerations we are led to the subject of the medical sects. As the medicine of Alexandria stiffened, and was drawn out into naked formulas, there, as under like circumstances elsewhere, a reaction set in, which, however, by a contrary extravagance ended in a similar sterility. Thus, at Alexandria, in the later part of the third century, or, as it is said, a little earlier, under Philinus of Cos, a pupil of Herophilus, arose the sect of the Empirics, whom in a former essay I have called the Philistines of Medicine. Like our own Philistines, these physicians were not without excuse, and were guided by a sort of brutal if rather barren common sense. In discussing the history of schisms and sects we must endeavour not to accentuate the differences by logical oppositions, but to perceive the modes and impulses which drove men apart. Men rarely separate for fantastic or empty reasons, nor even on mere divergencies of temperament; they secede because certain relatively enlightened minds begin to apprehend the hollowness or inadequacy of current tenets. They secede and carry others with them; the established party is wroth, the dissenters hit back, and in the fury of their disputes and repartees the points of difference are forced into exorbitant contrasts. While in calmer moments no sensible dogmatist would have admitted that he treated his patents on an abstract formalism, so no sensible empiric would have admitted that he treated them on detached phenomena, without any attempt to attach fact to fact, or to interpret their directions. Yet in these dissensions of Alexandria the dogmatist was represented as recognising no facts, the empiric no reasons. Some such extremists there may have been. Empiricism has, notwithstanding, been a valuable discipline, a more valuable discipline than scepticism, because it bases itself on action, while the sceptic gradually draws aloof from action. Celsus did not lose sight of these considerations of historical justice, but Galen accused the empirics less fairly. From Celsus we gather that the empiric of that day relied on three methods: on chance observations of happy results, but also on deliberate experiments or trials, and on systematic collection of facts. From Menodotus we learn that the empiric accepted what he called an *ἐπιλόγισμος*—which I might translate as common sense; for instance, we read that in a case of disease of the brain signs of any former injury to the head would be sought for, and weighed, even if outside direct perception. Still in his mistrust of tentative hypothesis the empiric was an extreme Baconian; he believed in induction, but did not apprehend the inductive method in its completeness; indeed, he tried to restrict himself as narrowly as possible to proximate causes, and to regard longer concatenations and remoter causes with suspicion. The faults of the empiric were that he was unaware of the fallacy of *enumeratio simplex;* he had no criteria; and in treatment he would be guided only by the uppermost signs. Obviously, then, he would vilipend the only anatomy we could know, as Sydenham eschewed pathology. We have surmised that even the anatomy of Alexandria was not developed so far as to give much practical aid to medicine, except in some confirmations of surgery. And it is a remarkable tradition concerning Herophilus that this brilliant anatomist did divide his science from his clinical practice, thus leaning towards the empirics; as in later times revolts have been made to clinical observation from an inchoate pathology. Soranus, indeed, said necropsies were useless—"*ἀνατομὴ* (that is, *post-mortem* examinations) *ἀχρηστὸς ἐστιν.*" And surely in the midst of Alexandrian visions many of the sayings of the empirics were refreshing; such as these, quoted by Celsus, "Ne agricolam quidem aut gubernatorem disputatione sed usu fieri"; "Morbos non eloquentia sed remediis sanari"; or even the characteristic "Non interesse quid morbum faciat sed quid tollat." The empiric at worst meant business. And we can readily understand the testimony of Celsus and others that the empirics turned out excellent surgeons, such as Heracleides of Tarentum. They were no transitory sect; we read of professed empirics down to the time of the half empiric and half sceptic Sextus Empiricus in the fifth century. In these times, and before them, we find that the medical like other sceptics, as they lost their zeal, began to crave for coarse mental stimulants and gave themselves up to rank superstitions.

Still, as I have said, the more rational empirics undoubtedly put symptoms in some sort of major and minor subordination, and they esteemed the clinical descriptions of Hippocrates and his immediate followers. Even as physicians they could not ignore the memory of experiences nor assert that observation can proceed without connotation; but in principle to the *ἔνδειξις* of the dogmatist they opposed *τήρησις.* The best rendering of these terms I have found in Castelli, who renders *ἔνδειξις* as the determination of agents by the causes and mode of generation, *indicati ex indicante,* and *τήρησις* as *cognitio fide sensum;* or, as I may put it, a tight attachment of the perception to the mere events. On this habit Galen, in his treatise on Sects, rightly comments that, as phenomena are infinite, we cannot but select; we cannot but note one feature and discard another—for example, that a patient has naturally curly hair will be irrelevant; and as it is not every man who knows what to

accept and what to discard, therefore discerning observation implies training. Moreover, many of the profounder affinities cannot be detected but by reason. This is, of course, the perennial quarrel between the practical man and the theorist; the theorist is prone to overlook the contingent, the practical man to see nothing but the immediately accessible, incidents. Still, even early and rude empiricism could not but begin to demand explanations, and to perceive that there were things ἄδηλα, as well as φανερά, with which, if true affinities are to be traced out, the understanding must deal. One fact was not as good as another; facts had their relative values, to be appreciated by a mental operation, and some, indeed, were crucial. But, persisted the empiric, clinical observation cannot teach us causes, while shrewdness and insight with experience—πεῖρα τριβική—can by provisional axioms make order enough to give the physician no insufficient guidance in the infinite world of symptoms. The empiric starved his method by isolating it. With these and such limitations, however, it would seem that the empiric, as such, could never have risen even to the bare idea of preventive medicine.

The empiric did not see that the human mind cannot content itself with perpetual suspense, but in default of some chain of reason will betake itself to analogies, which are usually superficial and false; nor did he perceive the indirect influence of the sciences in training the mind as an instrument to accuracy and method. Serapion, indeed, explicitly advocated analogy—ἡ ἀπὸ τοῦ ὁμοίου μετάβασις—a method fraught with the gross errors which I have indicated in the history of folk medicine. A debased empiricism must then abut either on the one hand by recognition only of the coarser phenomena upon folk medicine, or on the other, as in Sextus, upon the fatigue of scepticism; but more enlightened empirics, such as Menodotus, came near the salvation of the inductive method, and definitely did take account of remoter and obscurer causes. Menodotus, as M. Favier in an able essay has shown, even recognised the value and purpose of provisional hypothesis.[26] The contrary tendency to scepticism is indicated by such terms, common to both empirics and sceptics, as ἐγκύρησις—a lighting upon events, as opposed to conceptual anticipations of them. When we try to compare the standpoint of the dogmatist with that of the empiric, we are met on the threshold with the curious question, How much in the direction of the understanding the senses contain, or imply; how much διανόια—or the intelligent collection of apparent facts, contains of λόγισμος—or a reconstruction of them; and again, how far these processes are functionally in combination with ἱστορία or memory? On reflection we shall perceive that only in an abstract logical scheme, in a sort of Athanasian mosaic, is the mind divisible into such severalties. The faculties of mind and body work not in compartments but as a contexture; and in so far as these faculties are drawn asunder the functions of the whole understanding are thrown out of balance and its products perverted. In the school of Hippocrates it is true that humoral hypothesis was professed, yet in the matter of practice the bent of it was strongly empirical, and the understanding was regarded as receptive rather than productive. It was to this attitude of mind that Sydenham returned to a sort of systematic empiricism making for the plotting out of phenomena in series, in some contrast with the comparatively occult curiosity of Morgagni about seats of disease, and of modern medicine about their genesis. It was in their reliance on sagacity before logic, that the saner dogmatists—such as Celsus—were Hippocratean; they trained and trusted the faculty which Cicero calls *ingenium sagax*. But, after all, perhaps few schools—as few religions—were as bad as their creeds.

Of the state of medical opinion in Rome in the first century B.C. we have but indirect evidence, and even of this not much. Moreover, we have to set aside the random invectives of Pliny; happily, indeed, we are able to discard them for the evidence of Celsus, a sober and competent author, who, moreover, flourished nearer to the time we are considering—the time, that is, of the setting of the school of Alexandria and of the large migration of medicine to Rome. In the treatise of Celsus, then, medicine in Rome is presented to us as still in its main quality solidly Hippocratic, fortified by Alexandrian science, and chastened by the influence of the empirics who were protesting against the later Hellenistic vagaries in Oriental metaphysics. As I have recently published a note on Celsus in the *Classical Review*, I will not stop to repeat it here; I will do no more than indicate that among the upper classes of Rome in the first century B.C. medicine had been lifted far above the folk medicine of Cato, although beneath these classes it was flowing on in scarcely diminished volume. Thus was floating upon a Græco-Roman aristocracy of family and wealth a Greek, but still, as represented by their spokesman Celsus, a sedate and instructed medicine worthy of the Roman gravity; when, from more than one quarter, burst forth a new and revolutionary idea, championed by men of great ability, by a poet of transcendent genius, and by a physician rich in talents, which shook the Hippocratean raft almost to pieces. Indeed, in its later and corrupted form it was decomposing the science and art of medicine into empty conceits, when the more tremendous and, on the whole, more virtuous arm of Galen attacked and demolished it. So close have been the alliances between medicine and philosophy one may wonder that the atomism of the unrivalled twin masters Democritus and Leucippus had not made an earlier prize of our art—an art drifting then and since through many ages with uncharted methods, and without anchorages in substantial knowledge; for humoralism had ignored or neglected the pathology of the solids of the body. The triumph of Methodism proved but a hollow show, though, as I have stated upon the elucidations of Daremberg, Diels, and Wellmann, its survival, from its beginning to its fading away in Salerno, was a longer story than is usually told. For my part, however, I should speak, not so much of the late survival of Methodism as of its relics, and of these rather as its accidents than as its substance; but it is true that doctrines have their roots deeper in the past, and their vitality lingers longer than is obvious to the cursory observer.

The Hippocratic Canon is permeated by many inconsistent strains of thought; as, for example, in the Περὶ διάιτης; the Περὶ φύσιος ἀνθρώπου; the Περι φυσῶν, &c. Again, Diocles seems to have been a forerunner of the pneumatists. So among the adumbrations of Methodism, we find that Asclepiades apparently held the strange opinion, excusably derided by Galen, that the urine was not, as Hippocrates (Περὶ ὀστέων φύσιος) truly held, a stream secreted by the kidneys and trickling as rivulets by way of the ureters into the reservoir of the bladder, but that the corporeal fluids rising in vapour exhaled, and, vaguely permeating the pores of the body, condensed in the bladder. Now it luckily happens that Galen, in contesting this very unanatomical but very methodistical notion, remarked that it was in origin pre-Alexandrian. Furthermore, certain opinions concerning plethora, similar to those of Asclepiades, were also held before Erasistratus by one Aegimius of Elis. Now Aegimius, as it seems from Celsus and Galen, did not accept the humoral pathology, and was therefore neither Coan nor Cnidian in doctrine. Aegimius then may have been the first champion of atomism in medicine, as Asclepiades was really the last. These and such questions are very ably treated by Wellmann in the new Pauly,[27] where he traces back the atomistic stage of medical history to Erasistratus and beyond him. Diels is now of opinion that Erasistratus endeavoured to harmonise the materialism of Democritus with the ideas of Aristotle; that, according to Erasistratus, it was by an atomic mechanism that the great artist Nature created and acted, as Galen put it (*De Facult. Nat.*, II., 2, &c.), "προνοητικὴν τοῦ ζῷου καὶ τεχνικὴν αὐτὸς ὁ Ἐρίστρατος ὑπέθετο τὴν φύσιν." Health accordingly consisted in a συμμετρία (rhythmical system) of these rudiments.

Again, as we learn from Brieger and other commentators, Democritus opined that the soul consisted in a collective activity of spiritualised—that is the finest—atoms in all parts of the body; this opinion was held with a small difference by Asclepiades also, who proceeded to found upon it a positive method of psychiatry, wherein παραφροσύνη—which he clearly distinguished from the cerebral symptoms of other diseases—was to be treated as a disorder of the brain, a corporeal disease remediable by corporeal means, in which, however, he included music and other psychical influences; a true, and for that age admirable, conception which may be said to have fallen into utter neglect until its

[26] Un médecin grec du IIme siècle A.D., Thèse de Paris, On Fragments of this Physician's Writings in a Latin rendering of Galen's De Subfiguratione Empirici.

[27] See also Neue Jahrbericht f. d. Klassiker Alteratum.

restoration by Pinel. A note of the rare insight of Asclepiades is to be marked in his ideas of the integration of soul and body; for that these were real thoughts of his, not notions coloured after our modern patterns, is illustrated by such reflections as this—that hallucinations dissolve or diminish in the daytime, because they are counteracted by the data of the senses; as in the rays of the sun a torch becomes invisible. But in the dark the veil of oppression over the senses cannot be drawn away, and thus in sleep, the senses being closed, the pictures of fancy have free play (Cf. Lucretius, vi., 45).

It was then to the remarkable opinions of Democritus on the nature of the soul that Asclepiades, surpassing certain shortcomings of later thinkers, indeed, of Epicurus himself, returned; but now we come to an important advance of his own. Democritus, as I have said, held the interesting view that the soul consisted in the sum of functions, in a coöperation of the atoms of all parts of the bodily system (*συγγυμνασία τῶν αἰσθησέων*), so that between animation, consciousness, and thought—the ἄλογον and the λογιστικὸν—there were for him only degrees, no radical division. Erasistratus accepted the familiar divisions between the vital principle in the viscera, that of the animal life in the arteries and respiration (*τὸ ζωτικόν*), and that of the mind (*τὸ ψυχικόν*). For Diocles the soul was in the blood, for Praxagoras in the heart. It was the corollary of Epicurus that for the sake of the soul the body must therefore be cherished, which led to the degradations of hedonism. Now it is recorded of Asclepiades that in this part of physiology he made certain proofs by experiment. The view of Democritus—*πνεῦμα παντὶ τῷ σώματι παρακείμενον*—obviously excluded a particular seat of the soul; yet, said Asclepiades, in the synthesis the brain must take a predominant part; for he had observed diseases of the brain to be followed by notable perversions of the mind. It was to throw light on this dilemma that he undertook the experiments, in some prescience of the methods of Galen; he decapitated animals of different orders, eels, tortoises, goats, crickets, flies, and pointed out that, though under this dismemberment they could all survive awhile, it was in very various degrees. Moreover, in his research Asclepiades took heed of a certain reserve akin to the system of controls in our experimental method. He pointed out that the functional products were continually variable, even of the soul; this he explained by the incessant whirling restlessness of the atoms (*κίνησις, φόρα, ῥυσὶς*); he warned the empirics that therefore two and more observations could never be made under identical conditions. If, then, Asclepiades, in concentrating his explanation of insanity upon the brain, conjectured that the atoms of the brain were rounder and smoother, and so more mobile, than those in the rest of the body, where they united by hooks to form a web (*συμπλοκή, complexio*), yet he was led into this transcendental speculation by observation and experiment. We know, also, that he made *post-mortem* examinations, for in a gibe of Galen's, Asclepiades, who consistently with his theory and with the teaching of Erasistratus regarded digestion as a merely mechanical grinding and pulping, is derided for not observing different qualities in the digested food, whether in the vomit or "*ἐνταῖς ἀνατόμαις.*" But I will not attempt to detain you by farther illustration of the researches of Asclepiades, for, as in the case of Francis Bacon, his meditations were often more fruitful than his applications. Thus it was his logic which dictated to him that the finest atoms must be in the centre of gravity of the body—namely, in the breast; and, with more truth, he adhered to the belief that respiration consisted in the affinity of these finest atoms for the like finest particles of the atmosphere, those nearest like fire or pneuma, or, as we might say, of oxygen. The directions of the *φόραι*—the atomic orbits—he explained partly by "logic," yet also (as we might expect from an Alexandrian student) by some mathematical conceptions. For this reason the hypotheses of Asclepiades have been seriously compared with those of the iatro-physicists or iatro-mathematicians of the seventeenth century; but surely this is to forget that in the vast interval the bases of the medical sciences had been wholly transformed. Of philosophy the bases continued to be more uniform; Asclepiades, like his intellectual ancestor Democritus, was as convinced a teacher as Locke of the relativity of knowledge and of the relative finality of the appreciations of the senses. Ultimate substance is ἄδηλον, and we cannot, he says, carry the bases of our knowledge beyond phenomena (*φαινόμενα*).[28]

From considerations such as these, by a closer and wider investigation of such fragments and allusions as are extant, we begin to perceive that to regard Asclepiades as a smooth-tongued and covetous intriguer, bent on plausible inventions and pliable therapeutics wherewith to tickle the fancy of an enervated and self-indulgent society, was an unfair and mistaken judgment. On the contrary, we have seen that this eminent man was educated from his youth for the medical career; that to this end he studied in Erasistratean schools, perhaps in Alexandria itself, and came to Rome inspired by no time-serving, extemporal, or individual sentiments, but by a large and revolutionary system of doctrine seriously intended to overthrow the post-Hippocratean dogmatism, already combated by the empirics. This system, adapted from the atomic theory of Democritus and Epicurus, and developed in its applications to medical science, had been delivered to him through four or five generations of authoritative teachers; and about the same time this theory and interpretation of life, already for two or three generations propagated in Rome, was to reach its zenith in the splendour of the epic of Lucretius. In common life educated men, and even the general public also, were repudiating the crude tenets and the barbarous practices of the old-fashioned medicine; while in respect of the empirics, on the other hand, intellectual observers such as Crassus the orator,[29] Cicero, Atticus, Marc Antony, some of whom are recorded as personal friends and patients of Asclepiades, could not fail to discern the aridity of doctrines which professed to see facts only one by one. Thus the minds of thoughtful Romans were open to consider almost any plausible doctrine of causation, and meanwhile to welcome more temperate therapeutical methods. At this time it was that Asclepiades arrived from Athens, animated by the atomic theory, a physical conception of nature which in philosophy and literature also had already inspired other eager spirits with the ardour of revelation, and professing to found a new practice upon those methods of diet, active and passive exercises, baths, and the conduct of life which we honourably distinguish as physiological, and that Asclepiades was no ineffectual sophist, but expert enough with his hands on occasion, we infer from his reputation as a surgeon and from the attribution to him of the operation of laryngotomy.

But what about the ungenerous denunciations of Hippocrates? Why, we shall step out of the study, and apply to these scoffs a little worldly common sense. Asclepiades came to Rome as a rebel; he had to fight for his hand against a powerful array of conservative forces, especially against a jealous and none too scrupulous body of practitioners, all or nearly all of them either dogmatists or pretenders, both of which parties armed themselves alike with weapons from the armoury of the older tradition. As for our fathers, Moses being interpreted meant Bishop Usher, so in the mouths of the Greek doctors in possession "Hippocrates" meant the prevalent dogmatics and routine. And it were no inconsistency of temperament in a reformer one day as irascible man to throw controversial missiles at the effigy of a Hippocrates or a Moses, and on the next as sage to treat their persons with reverence. The remonstrances of Asclepiades were far away from the raw and insolent abuse of Thessalus, such as that the aphorisms of Hippocrates were all lies. Pliny is the only writer to impute moral delinquency to Asclepiades; the medical botanist and folk-lorist and the philosophical physician were irreconcilable. Varro, whose leanings were towards the Empirics, bitterly opposed the Epicureans, and in this sense only opposed Asclepiades. Scribonius Largus protested, but with great respect, against a physician who discouraged the liberal use of drugs. The wise and learned Celsus, in a period when literary acknowledgments were usually disregarded, mentions Asclepiades, so I have computed from the index of Dr. Friebos, no less than 29 times; if often with dissent, yet always with respect, and many times with honour—for instance, as "auctor summus" and as one who "*medendi*

[28] For the discussion of these materials derived from Sextus Empiricus, Caelius Aurelianus, Galen, Aetius, Cassius the iatrosophist, Antiochus of Ascalon, &c., I am indebted chiefly to Daremberg, Brieger, and Wellmann.

[29] Cicero, in writing to Crassus of Asclepiades as both friend and physician (apparently of both?), says that Asclepiades was indeed eloquent, adding: "In eo ipso quod ornate dicebat medicinae facilitate utebatur non eloquentiae."—*De Oret*, I., 14.

rationem ex magna parte mutavit." How paramount in his own day was the reputation of Asclepiades we know from the attempts by other potentates, especially by Mithridates, to allure him elsewhere. Galen, though more acrimonious in dispute than Celsus, yet likewise betrays in his argument, and indeed avows, that the fame and ascendency of Asclepiades were still paramount and that he sought to discredit that fame not in morals but in doctrine. Between such antagonists there could be no truce; and, as Asclepiades had been in his grave for a century and a half, the illustrious Galen got all his own way in the wrangle. Still I repeat that these angry protests of Galen, for much of which there was controversial justification, were a tribute to the authority of Asclepiades, and carried with them no more imputation of guile or dishonour than in the case of Menodotus and others whom he pursued with the same pugnacious eloquence.

While Asclepiades erred towards a dissipation of the specific in the universal, Galen, who belonged rather to the Herophilean tradition, became accordingly engaged and even entangled in too assiduous an occupation with specifics and the consequent enormous polypharmacy. Moreover, Galen had adopted the monotheism which, as it were in reaction from the invasion of demonology, had arisen in Alexandria, and in with it he had woven a highly elaborated teleology, which virtually postponed the divine to the human intelligence and turned any incidental result of the co-adaptation of an organism and its conditions into its end. Besides his loyal devotion to the name and school of Hippocrates, Galen was himself an ardent, only too ardent, humoralist. He relied also upon the Critical Days, repudiated by the atomist school, which, if a remnant of magical numbers, was accented, and more rationally, by the periods of pneumonia—a malady then frequent, and of the malarial influence which tainted many of the other diseases of the Mediterranean. It is a mistake, however, to suppose from this that the Methodists did not recognise crisis: what they denied was that crises were determined by calculable periods.

The researches of Maxwell, Kelvin, and J. J. Thomson—to mention but a few recent workers in this field—have linked us so much more intimately with the atomists of old, that we read even the esoteric Timaeus with less sense of the bizarre; still, for medicine the doctrines of Asclepiades, and still more justly those of Themison and formal Methodism, were very crude, even as hypotheses, and from the peculiar needs of medicine they rambled far away. What the art of medicine needed above all things was positive methods and a ruthless fidelity to facts. I have been led to imply that for medicine even the cramped and illiberal notions of the empirics were less unwholesome than the fascinating and philosophically interesting visions of atomism. Philosophy is one thing, a craft is another, and a craft must walk before it can fly. Atomism did, it is true, recall men to the forgotten solids of the body, yet so very impalpably that not professional antagonists only, but the very nature of things warred against Asclepiades. If the despotism of Galenic tradition became an incubus to medicine, we may surmise that a tyranny of Methodism might have been a worse misfortune. Methodism would have started indeed with a "cito et jucunde," and the western sick might have been spared the flourishes of the actual cautery and volumes of blood, but the following centuries were rough; perhaps they were fascinated by rough handling, at least they did not resent it; and if Methodism ignored the *vis medicatrix Naturae*, Galenism too often forgot it.

To move onwards from Asclepiades; the early atomists had said little of the spatial relations of the atoms, of pores between them.[30] Plato supposed his triangles to act in a plenum.[31] Erasistratus and Asclepiades, however, laid stress on the pores; for instance, if there were no pores in the skin how could one sweat?[32] And Themison, who is commonly regarded, perhaps conveniently, as the founder of Methodism proper, for the pores almost forgot the atoms themselves. In what kind of association, then, did the atoms seem to the atomists? Had they any conception—to use our current terms—of a grouping of the indivisible atoms into molecules? Even when we come down to Asclepiades, had he in his mind's eye any functional, differential, or heterogeneous segregation of atoms? After some rummage among texts and commentaries I have come to the conclusion that to this question no answer can be given. The difficulty is not so much that in respect of a building of atoms into molecules there is no allusion, as that in the relevant passages of the texts—fragmentary as they are—the extant terms and sentences are at variance, or indeed contradictory. Some Epicureans, using the word ἄτομος, regarded these particles as ultimate; others, using the word ὄγκος, as divisible; but it is not apparent that any point of constructional principle depended upon the difference. The probability is that the notion of systems of atoms or of compound atoms, as molecules, did not present itself formally to the ancient thinkers as a mode of functional development. They supposed that atoms might stick or crowd together, but they looked upon such adhesions as incidental, and usually, as hampering them in their orbits, mischievous. But Asclepiades, as we have seen, conceived of the atoms themselves as coarser and finer and so differential in function. To read more into their expressions—at any rate, into their extant phrases—is, I think, to import into them ideas of our own.

What is, then, the distinction which separates Asclepiades from Themison—the Epicurean from the Methodist? Well, this—that from regarding the atoms as in a plenum, or, again, as rushing, spinning, or whirling in space or spaces, Themison, as I have said, almost forgot the atoms in the pores, or rather forgot both in the meagre notions of relaxation (ῥυσις, τὸ ῥύωδες) and constriction (στέγνωσις, τὸ στέγνον) in this area or in that. Asclepiades conceived of the atoms as losing their balance and crowding together in this direction or in that so as to cause a stoppage (ἐμφραξις), or at least a retardation (στάσις), of the currents in one part with a corresponding rarefaction in other parts. Of the rarefactions, Asclepiades says less than Themison, for whom they loomed larger, and Themison contrasted the rarefied parts, where he regarded the tissues as relaxed, with the congested parts where they became choked or constricted. Thus, pain for Asclepiades consisted more particularly in a sense of stoppage, of aggregation of coarser atoms—as in thick blood for instance; Themison reduced it to a mere *strictum;* and in their respective explanations of fever there were the same differences. Generally speaking, for the Methodist acute disease was a *status strictus*, chronic disease a *status laxus*.[33] For pain, then, Asclepiades conceded that venesection, preferably local, might fairly be practised, though cautiously and only for instant relief; for he affirmed that on the whole bleeding tended to draw off the finer, the more vital, atoms first, leaving the coarser behind; so that rigor, due to such a peripheral viscosity, might follow venesection. Again, when arrests took place in certain parts, as in glands or in a lesion of a limb, the swift atoms, finding themselves thwarted in their orbits, would sweep upwards from the block, or perhaps from a more universal closure of the pores of the system, and thus set up general fever.

I may digress not inconveniently here to say that the interpretation of fever was one of the great questions of the schools; that of the atomists we have noted. Diocles held that fever was a contingent effect (ἐπιγέννημα) of some morbid process, and Galen took a similar view of it, the not irrational view—over-emphasised in later times by Broussais—that all fever depended upon some focus of inflammation, especially if pus were forming. Other schools attributed fever to plethora: the Hippocrateans to bile—the degrees of malaria, for instance, being degrees or kinds of biliary crasis. And external poisons were not forgotten—such as bad food or bad gases; for to some such agency Thucydides tells us the great plague of Athens was attributed. By the Methodists, however, these doubts and conjectures were all diluted into the vague conceit of a mere *strictum*, more jejune

[30] Empedocles supposed the emanations from external bodies passed through pores into the organs of sense.

[31] The πυκνωσις and ἀραίωσις of Anaximenes were not spatial relations of atoms but extenuation and condensation of a uniform "air." For the extant sources the reader is referred to the collection of Ritter and Preller.

[32] I may here recall the contemporary, and especially methodist, idea of respiration by the skin in man.

[33] That Asclepiades, or any other one physician, propounded the distinction between Acute and Chronic Disease I can hardly admit. The prevailing notion in the time of Hippocrates seems to have been that Chronic Disease was a sequel of Acute, and this notion became modified gradually.

even than the Asclepiadean stoppages of the pores. This was one of the universals (*κοινότητες*) of the Methodists; the other two chief *communitates* being the "laxum" and a third or mixed state, *μεμιγμενον*; this last being one of those shifts for the disposal of awkward instances to which most system-mongers are driven, only to find that it unites the difficulties of both extremes. This "mixtum" was inserted by Themison. On those universals Soranus wrote a book, lost with the rest of his works. Thus, conceptions which in Asclepiades were an endeavour to range biology with the positive sciences, to bring medicine into contact with physical methods, to anticipate Heller by bringing the solids of the body into the reckoning, were, by the extravagancies and fantasies of his immediate successors, the Methodists, attenuated into the flimsiest of cobwebs. To the most eviscerated of these notions the Methodists referred all phenomena; they scorned axiomata media, and sought to know the whole without knowledge of the parts. For them the problem of diagnosis was not, what are the phenomena? but how far could the malady be evaporated into a *communitas*—a *strictum*, or a *laxum*, or a *mixtum?* The treatment, accordingly, was just a correlative formula—laxative, tonic, tono-laxative—a facile device which, at any rate, discouraged polypharmacy. But, as Galen happily retorted upon them, as Humanity, for example, is a universal, but in the examination of individual cases, or even in inquiring into the species and sorts of Man, one very vaguely useful, so in disease the physician must not only pay regard to particular symptoms and characters, but must also inquire into what Galen called the procatarctic (occasional) causes, such as climate, age, sex, habit, and the like. This aspect of causation was familiar to Asclepiades, who taught, for instance, that diseases behaved differently, and patients tolerated treatment differently in Rome and in the Levant. However, too often these discussions were, after all, fights between one windmill and another. It is curious that each in his own extreme, the Empiric and the Methodist alike, the Empiric glued to his particular, and the Methodist blown into his universal, dispensed with the need of inquiry into causes, or, indeed, into processes. While for the Methodist the specific fact was as soon as possible to be sublimed into one of the three universals, for the Empiric it was an ultimate; the one refused to see it, the other refused to pursue it. This was a sad falling-off from Erasistratus, who made some necropsies; he observed, for example, that in ascites the liver might be of stony hardness. But the Methodists soon discovered—or it was discovered for them—that to reduce medicine to two, or even to three, abstract categories was because of its very facility to reduce it to a vapid and fruitless pretence; they formulated, therefore, other universals subordinate to the chief triad. Yet even then, for the explanation of poisoning, of the invasion of foreign bodies, of tumours, and of surgery in general, the idea was unworkable; and, at any rate, in its emptiness of content, futile.

The parallel categories to which their therapeutics were necessarily reduced were of *contraria contrariis;* if, as in the first stage of fever, there was constriction, then relaxants were to be used; if, as in the second stage, there was solution, then astringents. So, again, in presumptive local leaks or stoppages astringent or solvent remedies respectively were to be directed to the affected area. It is easy to see how such rules-of-thumb must lead, as in fact they did, to the vainest and most senseless routine, and how destructive they were of the method of Hippocrates, which, as Celsus wrote, was *mederi oportere et communia et propria intuentem.* Still, as in all such revolts, the leaders, as we have glimpses of them down the centuries in Oribasius, Aetius, Alexander of Tralles, were better than their followers. But I must permit myself again to commend the excellent and permanently influential side of their therapeutics derived from their forefathers, Asclepiades and Erasistratus, that which congruently with their physical views led to the correspondent extension and development of the physical means of cure—of passive movements, graduated exercises, special baths, diet, regimen, and so forth. These were the methods which, in the hands of Asclepiades, supplemented the barbarous practices of Archagathus. A proverbial rule of the Methodists, which we trace back to Asclepiades and Erasistratus, was the well-known three days' abstinence with which they commenced the treatment in acute disease. It was in the later stages that wine and good feeding were recommended.

In obstetrics the Methodists attained distinction, especially in the person of Soranus, whose fame, and the fragments and titles of whose works, testify to remarkable abilities, not in obstetrics only, but over the whole sphere of medicine. The man is reflected in his terse, lucid, shrewd, and practical style. Soranus was, as it were, reconstructed from these relics by Reinhold Dietz, of Königsberg, another learned physician carried off prematurely by death. The development of obstetrics probably arose out of the Alexandrian anatomy; we know that Herophilus wrote upon the subject. Thessalus of Tralles, on the contrary, in the reign of Nero, reveals himself to us as an arrogant boaster, and not only as vainglorious, but as the captain of troops of pretenders, to whom he promised for a fee to teach in six months all that need be known in medicine. Such medicine as Thessalus had to teach might have been written on the proverbial half-sheet of notepaper, and learnt for less money in as many hours. He vaunted himself as the foe of doctors, and on his ostentatious tomb in the Appian Way inscribed himself as Iatronikes. He vanquished, it is true, whatever there was in the science and art of medicine, of understanding, of skill, of patience, and of honour; and must have revealed to the respectable Methodists how near are the boundaries of vanity of doctrine and vanity of conduct. Asclepiades was the forerunner of the Methodists it is true, but it was by Themison and his school that the atomistic conceptions, which at best lent themselves too readily to fantasy, were so reduced, both in theory and practice, to summary forms as to be comprehensible by any illiterate charlatan.

A COMPARISON BETWEEN THE ANTISEPTIC AND ASEPTIC METHODS OF OPERATION, WITH SPECIAL REFERENCE TO THE OCCURRENCE OF SUPPURATION,

BASED UPON THE RESULTS OBTAINED AT ST. GEORGE'S HOSPITAL DURING THE YEARS 1906 AND 1908 RESPECTIVELY.

BY H. S. PENDLEBURY, M.A., M.B., B.C. CANTAB., F.R.C.S. ENG.,

SURGEON TO ST. GEORGE'S HOSPITAL AND TO THE HOSPITAL FOR CHILDREN AND WOMEN, WATERLOO-ROAD, S.E.;

AND

IVOR BACK, M.A., M.B., B.C. CANTAB., F.R.C.S. ENG.,

SURGICAL REGISTRAR, ST. GEORGE'S HOSPITAL.

DURING the year 1907 the use of antiseptic solutions at operations was superseded at St. George's Hospital by the more modern aseptic method. Up to the end of 1906 everything connected with an operation at St. George's Hospital was sterilised by means of antiseptic solutions. The trays and other utensils were cleaned by washing in hot soap and water and antiseptic lotions. The instruments were boiled and subsequently put in a 1 in 60 solution of carbolic acid. The swabs were subjected to a similar treatment, as were the towels by which the field of operation was surrounded. Gloves were hardly worn in any instance.

Dr. C. Slater writes us as follows: "The principal changes that have been introduced are largely concerned with details of technique involved in the substitution of aseptic for antiseptic methods—details which are well known to surgeons and about which it is unnecessary to say anything—and certain changes due to the installation of a more complete sterilising plant than that which existed before the period considered.

I. A battery of sterilisers has been provided, in a room adjacent to the theatres, which are heated by steam, and provide for easy and rapid sterilisation at 100° C. The most important of these is a large double tank, in each compartment of which the whole of the vessels required for an operation (instrument trays, receivers, &c.) can be sterilised at one time. These vessels are all packed into a perforated

metal receiver which is plunged into the steriliser, and after the requisite boiling is lifted out by means of a travelling crane, drained for a moment or two, and then dropped on to a trolley, covered with a sterile towel, and wheeled into the operating theatre. This method has replaced the simple washing out of the vessels with hot water (not boiling) and is rendered so easy by the mechanical arrangements that there is no tendency for those in charge to shirk the work.

II. A supply of sterile water has been provided for the theatres and for the sterilising room. The supply is drawn from the ordinary hot-water supply of the hospital, which has been shown by repeated examination to be sterile, and is cooled by passing through a metal worm immersed in a cylinder through which the whole of the cold water used in the theatres for all purposes passes. Beyond the initial cost, which was small, there is no expense involved for maintenance and little for renewals, while the quantity of water available is practically unlimited.

III. There has been an alteration in the method (formerly very faulty) of preparing and storing sterile salt solution, and provision has been made for the bacteriological supervision of this easily contaminated fluid.

IV. The most important change has been in the installation of a high-pressure steam steriliser of sufficient capacity to deal with sterilisation of all dressings, coats, towels, &c., for the theatre and for dressings for the wards. The methods used have been shown by experiment to secure the destruction of highly resistant spores placed in the least permeable of dressings in the centre of the boxes. The boxes are sterilised when closed and no internal cages are used. This saves much space and avoids many risks of contamination. These results cannot, however, be obtained in the ordinary metal sterilising box. The boxes employed have openings about 3 inches in diameter cut in the lid and bottom of the box, and these openings are protected by double gratings of coarse wire between which pads of wool and gauze can be placed. These pads can be easily renewed when necessary. The steam penetrates easily to the interior of the dressings, and there is no difficulty in securing that they are reasonably dry after sterilisation."

Associated with these changes there have been alterations in the nurses' costumes and regulations as to the wearing of gloves and the use of other precautions to secure asepsis. Rubber gloves are now worn by nearly all the surgeons; and many use some form of head-gear. The standard solution in use for the sterilisation of the hands was a 1 in 2000 solution of mercuric potassium iodide and 1 in 500 solution of the same salt in spirit. This is still employed for the preliminary cleansing of the hands, previous to putting on the rubber gloves. The only particular in which no change has been made is in the preliminary preparation of the patient's skin. The field of operation is first thoroughly washed with soap and a brush, next rubbed over with ether to remove any sebaceous débris and fatty material, and finally swabbed with a 1 in 500 solution of mercuric potassium iodide in spirit. A carbolic compress 1–80 is then bandaged on. In the theatre before operation the skin is again cleansed with ether soap and a solution of 1 in 500 biniodide in spirit.

These changes were begun early in 1907 and perfected towards the end of the year. It occurred to us, therefore, that it would be a matter of some interest to publish the results obtained during 1906, the last year of the old *régime*, with those of 1908, the first year in which the new method was used systematically. For this purpose we have examined the hospital records and have gone into the after-history of every major operation performed during those two years. We should state that at St. George's Hospital the initial notes of every case are taken by the registrar, while the continuation notes are written by the house surgeon in charge of the case, and thus we are forced to rely upon the data supplied by a large number of observers. In compiling these statistics we therefore made it a rule to include no case as free from suppuration unless there was a definite statement in the notes that the wound had healed by first intention or words to that effect. We have, however, in our capacities as surgeon and surgical registrar, personally observed more than half the cases during their stay in hospital, and further, we have been assisted in this inquiry by three of the house surgeons who were responsible for the care of many of the cases that we ourselves did not see. Any case in which the slightest doubt existed was immediately discarded.

Certain classes of cases were also eliminated as being unsuitable for the purposes of this inquiry. These were: (1) abscesses and cases already septic before operation; (2) operations upon the ear, nose, and throat; (3) operations upon mucous surfaces, e.g., upon the rectum and mouth; and (4) cases of appendicitis in which there was already abscess formation or peritonitis at the time of operation. Our reasons for excluding classes (1) and (4) are too obvious to need stating. With regard to classes (2) and (3), it need hardly be said that suppuration can and does occur, but we have excluded them because, while in some suppuration can hardly be avoided, in others it may escape the observation of even an intelligent house officer.

1360 operations are recorded in 1906, and 1180 in 1908. Of these, after the process of exclusion on the lines laid down, only 738 were available for our purposes in the former year, and 673 in the latter year.

The statistics of the two years are given in tabular form:—

	1906.	1908.
Total available operations	738	673
Healed aseptically	638	624
Became septic	100	49
Percentage of septic cases	13·5	7·2

These numbers are not as large as we could wish, but they are, at any rate, too large to admit of the argument that the improvement is a coincidence. We would point out also that the operators were the same in the two years.

We have further made separate statistics of the results of operations on certain special diseases, and again we give the results in tabular form:—

I.—*Radical Cure of Hernia.*

	1906.	1908.
Total cases	188	198
Healed aseptically	162	179
Became septic	26	19
Percentage of septic cases	13·8	9·6

II.—*Operations on Breast.*

Total cases	57	41
Healed aseptically	52	36
Became septic	5	5
Percentage of septic cases	8·7	12·2

III.—*Operations on Thyroid Gland.*

Total cases	13	16
Healed aseptically	12	15
Became septic	1	1
Percentage of septic cases	7·7	6·2

IV.—*Operations upon the Male Genital Organs, Hydrocele, Varicocele, Retained Testis, Tumours of the Testis, &c.*

	1906.	1908.
Total cases	49	46
Healed aseptically	42	43
Became septic	7	3
Percentage of septic cases	14·3	6·5

V.—*Operations for Quiescent Appendicitis.*

Total cases	65	90
Healed aseptically	59	87
Became septic	6	3
Percentage of septic cases	9·2	3·3

It will be seen from these tables that, as in the case of the total number of operations, the percentage figures are better in all cases in 1908 than in 1906, with the single exception of operations upon the breast. In some of the published statistics dealing with this question, operations in the neighbourhood of the scrotum, such as hydrocele and varicocele, have been omitted on account of the admitted difficulty of rendering and keeping the field of operation aseptic. It will be seen that in this inquiry we have made no such exception. In no case did the septic infection prove fatal nor did it materially prolong convalescence. For instance, in those cases of hernia in which infection occurred, although the healing of the wound was delayed, none of the patients were detained in bed beyond the usual period of three to four weeks.

While investigating the results of "interval appendicectomies," we had necessarily to inquire into the histories of all the cases of appendicitis during the two years, and we think the following statistics, though not bearing on the main question, are sufficiently important to justify publication.

Operations for Appendicitis.

	1906.	1908.
Total number of cases	176	216
Operations in acute stage (gangrenous with abscess or with diffuse peritonitis)	111	128
Deaths in acute cases	15	12
Operations in quiescent stage ("interval appendicectomies")	65	88
Deaths in quiescent cases	*Nil.*	*Nil.*
Percentage mortality (in all cases)	8·5	5·5
Percentage mortality (in acute cases only)	13·5	9·4

To sum up, out of every 100 primarily aseptic cases

operated upon, 86·5 healed aseptically in 1906, and 92·8 in 1908. We hope that these statistics will prove useful and of interest to the practitioner and help him to give a patient a fair idea of the average chance of aseptic healing after the commoner operations. We have tried to make these records as accurate as possible and we have embodied in them the results of the work of four surgeons and three assistant surgeons.

In conclusion we must thank Dr. Slater, the head of the clinical laboratory of St. George's Hospital, for the kindly interest he has taken in our paper; and we are greatly indebted to him for the detailed description of the sterilising methods now in use.

THE RELATION OF ALCOHOL TO IMMUNITY.

BY P. R. PARKINSON, B.A., M.B., B.C. CANTAB.

(From the Wellcome Physiological Research Laboratories.)

THE great amount of controversy which has arisen over the question of the action of alcohol on the human body has given rise to much experimental work on its action in animals. One of the chief interests of the question lies in the relation which alcoholism plays in the reaction of the body to infections. While much clinical evidence and general experience goes to show that large quantities of alcohol and the continuous use of moderate quantities in some individuals cause a lowering of the resistance to infectious disease, no definite evidence can be obtained as to its effect in small quantities. Experiments on animals have shown that there is in them a definite lowering of the resistance to infections when they are under the influence of alcohol.

The question as to how the alcohol acts does not seem to have been decided, though many statements have appeared to the effect that this drug lowers the resistance to disease by acting upon the phagocytes, and so inhibiting their activity. These statements have their foundation upon the fact discovered by Metchnikoff,[1] that drugs such as opium depress the activity of the white cells so that there is less phagocytosis than in normal animals. Since, however, it is now evident from the work of Wright[2] that phagocytosis is dependent upon substances in the serum it seemed that it might be of interest to determine by means of the opsonic index upon which factor—serum or phagocytes—the alcohol does act in an alcoholised animal. Delcarde[3] showed that animals when given alcohol succumbed during a course of immunisation against anthrax while the controls lived. Abbot[4] showed that animals alcoholised are more sensitive to harmful effects of several micro-organisms—e.g., streptococcus, staphylococcus, and bacillus coli. Laitmen[5] gave anthrax vaccine subcutaneously to six alcoholised animals and all died, while of four control animals only one died. Friedberger[6] has shown that one injection of alcohol increases the quantity of the antibodies while much alcohol diminishes them, but Fraenkel was not able to confirm this harmful influence.

Metchnikoff sums up the matter by saying: "Impairment of their [animals under alcohol] resistance was manifested by the inactivity of their white blood cells: alcohol therefore has a harmful action on phagocytes." Statements of a similar kind are quoted in the work by Horsley and Sturge.[7] They say: "It is now proved that alcohol even in tiny doses paralyses more or less the white cells. ..... Alcohol renders the white cells less alert, so that they remain passive and motionless in the presence of dangerous microbes." Woodhead[8] has stated that alcohol has an action on the antibodies in the serum, which are regularly but distinctly reduced. Kruschilin[9] observed in alcoholised rabbits a quicker course of infection and a quicker sprouting of spores than in control animals; he considers that the activity of the phagocytes is inhibited by the alcohol; he used staphylococcus, anthrax, and the hay bacillus in his experiments.

The experiments detailed in this paper were made with the object of determining the effect of alcohol, firstly, upon the phagocytes; and secondly, upon the production of antibodies which were gauged by taking the opsonic index.

Method.—The opsonic index was estimated in the usual way. The animals (rabbits), which were treated with alcohol (diluted), were injected by the vein of the ear. In the animals subjected to continuous alcoholism the treatment was commenced with small doses and gradually increased, the injections being made every other day and the treatment continued from two to four weeks; a tolerance is gradually established and the doses can be increased; the maximum dose obtained was once 2·5 cubic centimetres of absolute alcohol well diluted in normal saline. The minimum dose commenced with was 0·1 cubic centimetre. Rabbits should not be repeatedly injected subcutaneously with even dilute alcohol, as necrosis is apt to occur at the site of injection.

Action of alcohol upon the phagocytes.—In studying this action the following method was used: the blood was dropped into 1·5 per cent. sodium citrate and centrifuged down; the supernatant citrate was then drawn off and the corpuscles were mixed with normal saline made up with the required strength of absolute alcohol and this mixture allowed to stand, with occasional mixing, for about one hour. The corpuscles were then centrifuged down and immediately used.

Small quantities of alcohol.—The first experiments were made with small quantities of alcohol in order to see if this had any effect, either stimulant or depressing, upon the action of the phagocytes. Dilutions of alcohol 1 in 100, 1 in 50, and 1 in 25 were made: human serum and staphylococcus aureus were employed, and in all the experiments human corpuscles were used.

						50 cells.		Index.
Normal corpuscles		+	serum	+	cocci	= 220	=	1
Alcoholised ,,	(1–25)	+	,,	+	,,	= 218	=	1
,, ,,	(1–50)	+	,,	+	,,	= 221	=	1
,, ,,	(1–100)	+	,,	+	,,	= 198	=	0·9

The conclusion from this experiment is that by treating white cells with the quantities of alcohol given no effect on phagocytic activity is apparent.

Stronger solutions of alcohol.—Dilution 1 in 5: The corpuscles were next treated with a very strong solution of alcohol, 1 in 5, with the following result:—

					50 cells.
Normal corpuscles	+	serum	+	cocci	= 212
Alcoholised ,,	+	,,	+	,,	= 0

The white cells were here obviously much damaged by the alcohol and probably actually killed as the majority were broken in appearance and very granular.

Experiments were then made to determine at what concentration of alcohol the corpuscles are affected, and for this purpose two dilutions of alcohol were used for treating the corpuscles, 1 in 8 and 1 in 10.

						50 cells.		Index.
Normal corpuscles		+	serum	+	cocci	= 269	=	1
Alcoholised ,,	(1–10)	+	,,	+	,,	= 260	=	1
,, ,,	(1–8)	+	,,	+	,,	= 132	=	0·5

The phagocytosis in the last case is lowered to half the normal, and though the corpuscles were not broken up there was some evidence that the alcohol of this strength had acted upon their structure in that the outline of the nucleus in many cases was becoming irregular as though small "streamers" of nuclear protoplasm were projecting into the cytoplasm.

From these experiments it may be concluded that alcohol has no effect upon phagocytic activity until it is of such a concentration as to seriously injure the vitality of the cells. Moreover, it is practically impossible that it could occur in such quantities in the blood as to be in a solution of 1 in 8, at which dilution it begins to exert its effect upon the cells.

Effect of alcohol on the opsonic index.—1. *Non-toxic dose of alcohol.* A cubic centimetre of alcohol was injected subcutaneously and caused no apparent clinical effect. Blood was withdrawn 24 hours and three days after the injection and tested against staphylococci.

[1] Metchnikoff: Immunity in Infectious Diseases (Cambridge, 1905).
[2] Wright: Studies of Immunisation (London: Constable, 1909).
[3] Delcarde: Annales de l'Institut Pasteur, 1897, p. 837.
[4] Abbot: Journal of Experimental Medicine, vol. i., p. 447.
[5] Laitmen: Zeitschrift für Hygiene, 1900, vol. xxxix., p. 206.
[6] Friedberger: Quoted by Metchnikoff, Harben Lectures, Hygiene of Tissue, 1906.
[7] Horsley and Sturge: Alcohol and the Human Body.
[8] Woodhead: Recent Researches on the Action of Alcohol in Health and Sickness, quoted by Horsley and Sturge.
[9] Kruschilin: Zeitschrift für Immunitätsforschung, Band 1, 1909, S.407.

	50 cells.	Index.
2½ hours—		
Corpuscles + normal rabbit serum + cocci	= 211	= 1
,, + alcohol ,, ,, + ,,	= 285	= 1·3
Three days—		
Corpuscles + normal rabbit serum + cocci	= 283	= 1
,, + alcohol ,, ,, + ,,	= 279	= 0·98

A small non-toxic dose of alcohol causes a rise in the opsonic index of short duration.

2. *Toxic dose of alcohol.*—The effect of this was studied by giving a rabbit a single large dose (4 cubic centimetres) subcutaneously. The clinical effect of this was respiratory distress and some collapse. The symptoms appeared in half an hour and lasted about four hours. The animal's serum was tested four hours and 24 hours after the injection.

	50 cells.	Index.
Four hours—		
Corpuscles + normal rabbit serum + cocci	= 380	= 1
,, + alcoholic ,, ,, + ,,	= 294	= 0·77
24 hours—		
Corpuscles + normal rabbit serum + cocci	= 248	= 1
,, + alcoholic ,, ,, + ,,	= 269	= 1·08

A toxic dose of alcohol lowers the opsonic index for a few hours, but recovery has taken place in 24 hours.

Effect of chronic alcoholism on the opsonic index.—A rabbit was treated with gradually increasing doses of alcohol, the injections being given intravenously every other day. Serum taken at various intervals of time gave the following results:—

Eleventh day—	
Index to staphylococcus	= 0·72
,, tubercle bacilli	= 0·78
Sixteenth day—	
Index to staphylococcus	= 0·76
,, tubercle bacilli	= 0·77
Three weeks—	
Index to staphylococcus	= 0·72
,, tubercle bacilli	= 0·69
Four weeks—	
Index to staphylococcus	= 0·78
,, tubercle bacilli	= 0·70

Chronic alcoholism produces a marked lowering of the opsonic index, although no toxic symptoms are produced.

Effect of alcoholism on reaction to vaccination.—A rabbit which was under the influence of chronic alcoholism was injected with a vaccine of 1,000,000,000 staphylococcus aureus and its reaction compared with that of a normal rabbit similarly treated.

	50 cells.	Index.
Before the vaccine—		
Alcohol rabbit	=	0·79
Normal ,, ...	=	1
2½ hours after the vaccine—		
Normal rabbit	= 218	= 1
Vaccinated alcohol rabbit	= 206	= 0·94
,, normal ,, ...	= 288	= 1·32
Third day after vaccination—		
Normal rabbit	= 302	= 1
Vaccinated alcohol rabbit	= 229	= 0·7
,, normal ,, ...	= 308	= 1
Sixth day—		
Normal rabbit	= 203	= 1
Vaccinated alcohol rabbit	= 136	= 0·6
,, normal ,, ...	= 207	= 1

The effect of this vaccine on the rabbits shows that where a normal rabbit would respond to a vaccine with a considerable rise on the opsonic index a rabbit under the influence of alcohol shows reaction, the index not rising above normal. The injections were repeated, using a much thicker emulsion of killed organisms.

	50 cells.	Index.
Before vaccination—		
Normal rabbit	= 203	= 1
Alcohol ,, ...	= 136	= 0·6
Rabbit to be vaccinated	= 207	= 1
2½ hours after the injection—		
Normal rabbit	= 342	= 1
Vaccinated alcohol rabbit	= 268	= 0·78
,, normal ,, ...	= 395	= 1·15
Third day—		
Normal rabbit	= 570	= 1
Vaccinated alcohol rabbit	= 382	= 0·67
,, normal ,, ...	= 352	= 0·61
Sixth day—		
Normal rabbit	= 34	= 1
Vaccinated alcohol rabbit	= 357	= 1·06
,, normal ,, ...	= 436	= 1·3
Ninth day—		
Normal rabbit	= 387	= 1
Vaccinated alcohol rabbit	= 352	= 0·8
,, normal ,, ...	= 476	= 1·26
Twelfth day—		
Normal rabbit	= 284	= 1
Vaccinated alcohol rabbit	= 197	= 0·7
,, normal ,, ...	= 296	= 1

The large dose was sufficient to produce a marked negative phase followed by a positive one; the negative phase brought the normal vaccinated rabbit's index down to the level of the alcoholised one after a slight rise in each case; from this point the reactions show a marked difference, the normal vaccinated rabbit's index mounts up to 1·3 while the alcoholised rabbit's index starting from the same level mounts up only to about normal. The reaction lasts rather longer in the case of the normal vaccinated rabbit.

These results show that one of the effects of chronic alcoholism on the animal's body is to act upon the mechanism which produces the anti-bodies in such a way as to render it less sensitive to the invasion of killed micro-organisms so that the reactions are not so great as in a normal animal; it is interesting to note also that the negative phase is less marked in the alcoholised rabbit. It would naturally be inferred from such results that animals under the influence of alcohol would show less resistance to infections by living organisms than the normal animal, as has been shown by experiments referred to previously.

The next experiment therefore was to try the effect of such living cultures upon the reacting mechanism. A rabbit under the influence of alcohol was infected intravenously with a living culture of staphylococcus aureus and at the same time a normal animal was treated with an equal quantity of the same emulsion of staphylococcus; the variations in their opsonic indices were followed for several days; the rabbits showed no clinical signs except a slight loss in weight in each case. The opsonic index of the alcoholic rabbit before infection stood at 0·7. 50 cells were counted in each case.

	50 cells.	Index.
2½ hours after infection—		
Normal rabbit serum + staphylococci	= 107	= 1
Infected alcoholic rabbit serum + ,,	= 70	= 0·6
,, normal ,, ,, + ,,	= 140	= 1·3
Third day—		
Normal rabbit serum + ,,	= 349	= 1
Infected alcoholic rabbit + ,,	= 106	= 0·3
,, normal ,, + ,,	= 161	= 0·4
Fifth day—		
Normal rabbit + ,,	= 465	= 1
Infected alcoholic rabbit + ,,	= 240	= 0·5
,, normal ,, + ,,	= 358	= 0·77
Seventh day—		
Normal rabbit + ,,	= 316	= 1
Infected alcoholic rabbit + ,,	= 89	= 0·25
,, normal ,, + ,,	= 162	= 0·5
Ninth day—		
Normal rabbit + ,,	= 335	= 1
Infected alcoholic rabbit + ,,	= 212	= 0·63
,, normal ,, + ,,	= 385	= 1·15
Eleventh day—		
Normal rabbit + ,,	= 467	= 1
Infected alcoholic rabbit + ,,	= 486	= 1·04
,, normal ,, + ,,	= 668	= 1·42
Thirteenth day—		
Normal rabbit + ,,	= 284	= 1
Infected alcoholic rabbit + ,,	= 247	= 0·87
,, normal ,, + ,,	= 388	= 1·36
Fifteenth day—		
Normal rabbit + ,,	= 312	= 1
Infected alcoholic rabbit + ,,	= 225	= 0·72
,, normal ,, + ,,	= 364	= 1·16

These results show as would be expected from the previous ones that the production of antibodies as represented by the opsonins is very much feebler in an alcoholised rabbit than in a normal rabbit when both are infected with living micro-organisms. In this case both animals survived the injection, and though they suffered from a prolonged negative phase both eventually showed a positive phase; the difference of reaction is marked, the alcoholised rabbit shows a much lower index during the negative phase and a less marked rise during the positive reaction, thus proving again that the alcohol has interfered with the reactive mechanism.

Though these results are definite for animals and probably show the method by which alcohol lowers resistance to disease in man the conditions under which the experiments are performed are not strictly the same in the two cases. The alcohol present in alcoholic liquors is not pure alcohol alone, but contains other substances which may in large quantities be equally deleterious; at the same time it is probable that such toxic substances would act in the same

way as the alcohol does, by depressing the activity of the reacting mechanism.

Another important difference to be remembered in applying these results to the case of man is that of tolerance. The experiments were carried out after a few doses of alcohol had been administered and such doses were given in gradually increasing quantities. In man, however, there may be the same dose, roughly speaking, continued over a great number of years, in which case it is probable that a high degree of tolerance being induced no abnormal condition of the reacting mechanism is incurred.

In those cases in man in which alcohol does lower the resistance to infections it is probable that it acts in the same manner as it appears from these experiments to act in rabbits, by its action on the production of antibodies and not from any action directly upon the phagocytic activity of the white cells.

Conclusions.—1. Alcohol in small quantities has no action upon the phagocytic activity. 2. It has no action on the phagocytic activity until it is present in 12·5 per cent. strength. 3. Small quantities of alcohol injected into rabbits may stimulate the production of antibodies temporarily. 4. A large dose of alcohol lowers the opsonic index for 24 hours. 5. Continuous moderate doses of alcohol cause a permanent lowering of the opsonic index. 6. The reacting mechanism to vaccines is much less effective in alcoholised rabbits than in normal rabbits; the difference is still more marked when living micro-organisms are used.

SOME COMPLICATIONS AND DANGERS OF NASAL SURGERY.[1]

BY H. BELL TAWSE, M.B., CH.B. ABERD., F.R.C.S. ENG.,

LATE HOUSE SURGEON AND CLINICAL ASSISTANT, HOSPITAL FOR DISEASES OF THE THROAT, GOLDEN-SQUARE, LONDON, W.

DURING the last 20 years nasal surgery has made very rapid advancement, the technique has much improved, and areas which at one time were deemed inaccessible and dangerous can now be reached with comparative safety, while the vulnerable parts of the ethmoidal labyrinth, for instance, have been more clearly defined. In recent years the attention of the medical profession has been drawn to the importance of surgical procedure in many of the cases previously treated—and very often unsuccessfully treated—by douches, snuffs, &c. Medical men, as a rule, did not hanker after such cases, which seldom did credit to their treatment; and often the patients, in a miserable condition from headache, foul nasal discharge, cough, and expectoration, &c., dispensed with medical advice, and either resigned themselves to their condition or gave themselves up, body and soul, to the remedies of the unscrupulous quack. Nowadays there are few diseases of the nose that we cannot in some way ameliorate, and there are many sufferers that we can reasonably promise to restore to perfect health. Naturally the increased number and the magnitude of nasal operations have produced complications and dangers unheard of in pre-operative days, and it is on these more particularly that I propose to dwell, completing the imperfect record of personal experience by cases which I have observed under the care of others.

DISEASES OF THE MIDDLE TURBINATE.

The middle turbinate, by far the most interesting and important of the spongy bones, is very commonly the site of disease of varying forms and intensity, and from its close proximity to the openings of the anterior group of sinuses it will be obvious to you that alterations in its size must materially influence the drainage of those sinuses. Fortunately, in many of the cases of acute inflammation of those sinuses the inflammatory products force a way out and recovery speedily follows, but occasionally—and I venture to say more commonly than we think—the sinuses only partially empty themselves, and one is face to face with the beginning of a chronic sinus suppuration.

Diseased conditions of the middle turbinate require its partial or complete removal. It is said that fracture of the cribriform plate of the ethmoid has been caused by the use of the cold wire snare in this procedure. This I very much doubt, but I have seen post mortem a case where this structure showed a perforation supposed to have been caused by Walsham's scissors in removing the anterior end of the middle turbinate, death being due to suppurative meningitis. A point which I should like to strongly emphasise is the importance of having free access to the middle turbinate before attempting its removal. I refer to the correction of deviations and obstructing spurs, which not only occlude the view but very frequently conceal an enlargement and prevent its complete removal. If this is not done the mucous covering of these deviations is almost certain to be damaged and troublesome adhesions between the septum and turbinates are extremely likely to follow and will be very difficult to cure. The surgery of the nasal septum was until a few years ago in a most unsatisfactory state. The operations were manifold and the armamentarium employed was a most extensive one, and the results in many cases were deplorable. Adhesions to the turbinates were common, perforations and sloughing of the septum were frequent, and I know of a case where collapse of the tip of the nose occurred and transformed a well-shaped into an ugly snubnose. A few years ago Killian introduced his now famous operation of submucous resection of the septum, and I can unhesitatingly recommend it to you for practically all cases of septal deviation. Carefully and skilfully done it has no equal. It will afford easy access to the diseased middle turbinates, it will render any after-treatment simple, and it will make it possible for you to obey the golden rule for successful nasal surgery—namely, to have efficient drainage.

By far the most important disease of the middle turbinal region requiring surgical intervention is polypoid degeneration, commonly called nasal polypi, and there is no pathological condition in the nose which demands such careful, thorough, and patient treatment. Associated as it often is with suppuration and sinus infection, it will be at once apparent to you that it is a prolific source of the complications which occur in nasal surgery.

Ethmoidal curetting, the only operation worth doing for nasal polypi and apparently a dangerous procedure, is one which in skilled hands is attended with brilliant results. The dangers I shall enumerate to you, but only the most important will be reviewed at length. They are: (1) hæmorrhagic effusion into the eyelids and orbits; (2) orbital abscess; (3) necrosis of the frontal bone; (4) necrosis of the superior maxilla; (5) fracture, puncture, and laceration of the cribriform plate, suppurative meningitis; (6) suppurative meningitis apart from injury; (7) severe hæmorrhage; and (8) optic neuritis and blindness.

The first of these, effusion into the eyelids and orbit, is very common and of no moment. Orbital abscess, very rare, requires external incision, as do necrosis of the frontal bone and superior maxilla, but such unfortunate occurrences should not deter one from thoroughly clearing out the disease. To be timid with ethmoidal curetting will certainly deprive the operation of much of its success.

I had the good fortune to see a case which well illustrates all the complications I have discussed and a few more. Double ethmoidal curetting was performed on a woman rather over 30 years of age, who was the subject of old-standing nasal polypi and ethmoidal suppuration. A few hours later both eyes were closed with hæmorrhagic effusion, and, as is usually the case, she had severe frontal headache. At night the temperature was 101° F., being 99·5° in the morning. This febrile condition persisted, although at the end of the first week the effusion had left the eyelids, and the headache was merely a dull aching heaviness. Four days later puffiness appeared over the right nasal bone and the nasal process of the superior maxilla, and in a few days fluctuation was made out. The abscess was freely incised; a little thin pus escaped, and some necrosed bone was scraped away; it was drained. A week after, during which time the temperature had varied from 99° to 102°, a similar but larger swelling appeared along the lower orbital margin and was similarly treated. A week later just the same happened in the right frontal sinus region and subsequently on other parts of the skull. By this time the headache had become intense, optic neuritis was diagnosed, the eyelids were œdematous, and drowsiness had developed. At night she was delirious, and occasionally in

[1] Founded on an address delivered before the Nottingham Medico-Chirurgical Society.

the last two days of her life she had a rigor. The post-mortem examination revealed extensive necrosis of the superior maxilla and frontal bone scattered in small patches, and giving the skull a worm-eaten appearance. The cribriform plate was reduced to a soft pulpy mass, and the crista galli of the ethmoid floated free in the pus of a basal meningitis. All the accessory sinuses contained pus. The case, I think, is unique, and fortunately so. Its gradual progression to a fatal issue occupied about five weeks and nothing seemed to influence its course.

The cribriform plate of the ethmoid—that bugbear of most nasal surgeons in their early days—is occasionally punctured, fractured, or lacerated, and fear of this has time and again led to failure. But really a little care in watching the position of the cutting end of the curette with regard to the plane of the cribriform plate will prevent any damage. It is not so easily punctured as one would imagine—access to it is through a narrow slit, I might call it, and to get there requires some force. Still, the indiscriminate use of a cup-shaped curette with the cutting edge pointing upward will undoubtedly injure this structure, and it was in much this way that another death I have seen occurred. The instrument was a Grünwald's curved curette, and although the cutting edge was mostly directed towards the orbit, at times it must have strayed towards the vertical plane, and then the damage was done. I need not recount to you the further history of the case beyond telling you that acute suppurative meningitis reached a fatal termination in four days. The symptoms in such a case are similar to lepto-meningitis from other septic causes but more severe. The diagnosis is never in doubt and the treatment is always in vain. Operation need not be thought of.

Before finishing this fragmentary description of the dangers of ethmoidal curetting a word of caution will not be out of place in dealing with older patients—those over 50 years of age—the subjects of long-standing sinus suppuration and polypi. Many of them have on frequent occasions had polypi removed; the middle turbinate, or what remains of it, is in a state of degeneration, and the tissues are of a pale bluish anæmic colour. The nose is full of pus, and perhaps all the sinuses are infected, and the bone destruction is usually much greater than one can diagnose by the speculum and probe.

A very interesting case—one that well exemplifies the risks of old-standing nasal polypi and suppuration in old people—was that of a man, 70 years old, who for 40 years had been the victim of nasal polypi. Time and again the polypi were removed by the snare, only to recur in a few months. Every visit to the surgeon he vowed would be his last, and he actually went for two years with his nose completely blocked. However, this state of things could not continue; his health began to decline, the pus which he was swallowing ruined his digestion, whilst cough and expectoration repeatedly spoilt his night's rest. He was obviously breaking up; headaches—occasionally frontal and sometimes occipital, but oftener general—still further reduced his strength. His spirits flagged, and at odd times he fell into a drowsy, half-somnolent condition. The headache increased and became so excruciating that he was compelled to seek advice, hoping that another clearance of his nasal passages would relieve him, as it had done before. This time, however, it was thought that the nasal condition would not account for the intensity of the headache, but in the hope that the removal of pressure and the improved drainage would allay the pain the larger polypi were removed under cocaine and adrenalin anæsthesia with the cold wire snare. There was no improvement; the operation had failed to benefit the headache. 12 days later he died, and the course of the illness was particularly interesting. He gradually became drowsy, his temperature at times reached 102° F., and his repeated request was for something to relieve the headache. He retained his faculties to the end, even talked and made witty remarks, and only for a couple of hours before death did he become quite unconscious. Throughout his pulse was strong; he had but one rigor and had no convulsions. Optic neuritis was absent. Twitching of the right arm and leg appeared for a day, and brief cycles of Cheyne-Stokes breathing were noted. Unfortunately no post-mortem examination was made, and thus the diagnosis was in doubt. Was it a cerebral abscess or suppurative meningitis? I am inclined to think it was the former from the previous history, from the duration of the illness after operation, and from the absence of signs of meningitis save in regard to the temperature and drowsiness. Moreover, I might venture further and suggest that the abscess was in the frontal lobe. The cerebral abscess, if he had one, was probably old-standing, and its latent energy was stimulated by fresh absorption from the raw surfaces left after the removal of the polypi. Therefore I should like to impress upon you the importance of early and thorough treatment of nasal polypi and ethmoidal suppuration and to remind you of the complication which may ensue in old-standing cases.

THE SURGERY OF THE FRONTAL SINUS.

The surgery of this sinus has progressed with leaps and bounds since Ogston in 1884 described three cases of empyema which he had treated by operation. There is still room for great improvement, and I look forward to the time when one will be able unhesitatingly to recommend the radical operation without being haunted by fears of osteomyelitis of the skull and meningitis and the lesser evils of a discharging fistula in the orbit and continuance of the nasal suppuration. I would not have you think that I condemn the operation. Far from it, but I think many cases have hitherto been unwisely subjected to operation when the only symptoms of the trouble have been a discharge of pus from the infundibulum and an occasional headache.

To begin with, the deformity left after the radical treatment cannot be lightly laid aside. The disfigurement is obvious, and subjects of the double operation acquire a weird physiognomy, especially as the capacity of the two sinuses frequently varies. In women this is always a serious matter. Obliteration of the sinus, the common operation, is sometimes impracticable from its size. One has then to face the alternative of keeping a drainage-tube in the infundibulum till all discharge ceases. And this is no trifling matter if you consider that a rubber drain protruding at the inner angle of the orbit has to be worn for a considerable time, and then a silver cannula has to be inserted to prevent contraction of the infundibulum, and may have to be used for many months or even years. The uncertainty and tediousness of this mode of treatment try the patience of the surgeon and more so that of the patient, and some have drifted into a hopelessly neurotic condition, whilst others have become confirmed hypochondriacs. A hospital patient once told me that if the discharge from the orbital fistula could not be stopped he would commit suicide, and he looked as if he meant it.

The more serious and almost universally fatal complications of the radical operation are osteomyelitis of the skull, meningitis, and cerebral abscess, and to illustrate the first of these I will take the case of a young girl who was a sufferer from intense right frontal headaches and chronic nasal discharge. The operation was performed by Killian's method but no bridge of bone was left to preserve the contour of the orbit. A drainage-tube was passed into the infundibulum, and it was kept there for a week, till the skin incision had healed, and was then removed. The cavity was packed daily with gauze through this opening. Evidently the cavity was not being properly drained, for at the end of the first week the temperature rose to 102° F. and for the next few days ranged from 99° to 101·5°. The wound was opened up and one of the ramifications of the sinus was found shut off and full of pus. The gauze packing had not reached this point; otherwise the operation area looked healthy. The wound was opened up and free drainage was established, the gauze packing being continued. A few days later the skin over the frontal sinus assumed that glossy appearance which, to my mind, is a bad omen in such cases. At first there was no pitting on pressure, but a deep-seated tenderness led one to suspect bone inflammation. The wound was again opened up and the tissues were raised to expose a little of the frontal bone. This was found roughened and the periosteum over it was thickened; a drop of pus escaped on incising it. Perfect drainage was established but failed to influence the course of the bony inflammation. Œdema of the forehead with tender spots here and there over the skull were a fitting accompaniment to marked drowsiness, intense headache, and other evidence of septic infection of the meninges. Slowly she sank, and during the last two days of her life she was quite unconscious. She died about five weeks from the date of operation. Post-mortem examination revealed patchy osteomyelitis of the skull and purulent meningitis. Scattered all

over were small areas of necrosis from which beads of pus oozed on pressure.

No operative treatment seems to arrest the progress of osteomyelitis of the skull—and even the very radical proceeding of incising the scalp from ear to ear and chiselling away the outer table of the frontal bone failed to stop the spread in another case. In this case the drainage was apparently inadequate, and if one reflects on the irregularity of the boundaries of the frontal sinus, on its overhanging anterior surface perforated by venous channels, one can easily imagine that when the skin and tissues are allowed to fall into position how liable a small pocket is to be cut off. Once this happens time alone is necessary for it to become septic, for it seems well-nigh impossible to make the parts aseptic during operation. The subsequent course of the case is well illustrated by the examples I have already given you.

After such a gloomy account of frontal sinus surgery you will wonder why the operation is done, but when you consider that the posterior wall of the sinus is very thin, that erosion imperils the meninges, and that blockage of the fronto-nasal duct from œdema, nasal polypi, &c., is not uncommon, you will, I think, allow that the operation is absolutely necessary in some cases, and when I relate to you the following interesting case you will agree that disease of the frontal sinus involves the patient in considerable risk.

The case was related to me by a friend of mine, who was called in consultation to see a man who lay in bed apparently prostrate with grief at the death of a relative. Physicians said his mental equilibrium had been upset, probably from shock, and that restoration to health was but a question of time. Surgeons could find no symptom warranting an operation; in fact, they decided that the case was a medical one. He had no pain, no headache, and no optic neuritis. The appetite was poor and the bowels were constipated. He was listless and apathetic, would speak when spoken to, but at other times he lay with his eyes closed and seemed asleep. Someone mentioned "nasal discharge" and the rhinologist was soon on the spot. He detected signs of old ethmoiditis, but careful examination failed to justify any surgical interference. The patient died suddenly a week later, and nothing but increasing drowsiness was noted to help towards a diagnosis. Post-mortem examination revealed erosion of the posterior walls of both frontal sinuses with exposure of thickened dura mater and ethmoidal disease. A large abscess was found in one of the frontal lobes, and this had ruptured into the ventricles and caused the patient's sudden death.

To sum up the treatment of frontal sinus suppuration. In cases where pus escapes freely from the frontal sinus and is producing no ill-effect on the general health, and only an occasional headache is complained of, and if the patient can be seen periodically, I think the risks of operation more than counterbalance the advantages. Intra-nasal treatment will suffice for the patient's comfort. If, however, any signs of cerebral involvement occur, if the health is undoubtedly suffering from septic absorption, if the headache is intense and persistent, or the infundibulum is narrower and is causing retention, then an operation must be performed.

A few not unimportant sequelæ which one notices after operation, and which, although not of vital importance, are responsible for much discomfort to the patient, might be mentioned. Dryness of the throat and nose, sometimes with crust formation, may follow turbinal and extensive ethmoidal operations, and after the latter I have seen occur what one might term a post-operative ozæna. The risk of infection of healthy sinuses must not be lost sight of, and although this at times is unavoidable, still strict attention to the ordinary principles of antisepsis or asepsis will considerably reduce the risk. Acute inflammation of the middle ear and follicular tonsillitis as operative sequelæ need not be discussed, but before I finish there is one more interesting sequela that I wish to bring before you. It is the nervous breakdown which one occasionally encounters.

When considering the benefits that will accrue to the patient one must not forget that the removal of the diseased foci is not the only point at issue. One must satisfy oneself that the patient's confidence will stand the strain of perhaps a tedious and painful course of treatment, and one must be ready to banish all gloomy thoughts, to combat every evidence of flagging courage, and to make the patient feel that both are successfully striving to produce an early and favourable termination to the trouble. Sometimes one fails; the patient breaks down and various aches and pains are complained of. They may be located in the head at one spot, or a general headache, or in the spine, or assert themselves as weakness in the limbs and joints. The female sex is not alone in the neurotic plight. A man of strong physique and of apparently well-balanced mind may give unmistakable signs of nervous collapse. Women suffer from painful and irregular menstruation and discover some tender spot in the ovarian region and hurry to the gynæcologist, whilst others adopt the suggestion of friends and undergo protracted rest cures, courses of electrical treatment, &c. Do not conclude that the operation has caused this train of symptoms: it is the tedious after-treatment which has been too much for their nervous systems.

Nottingham.

SOME NOTES OF

A SEVERE CASE OF EXOPHTHALMIC GOITRE, IN WHICH TREATMENT BY X RAYS AND SOUR MILK APPEARED TO BE BENEFICIAL.

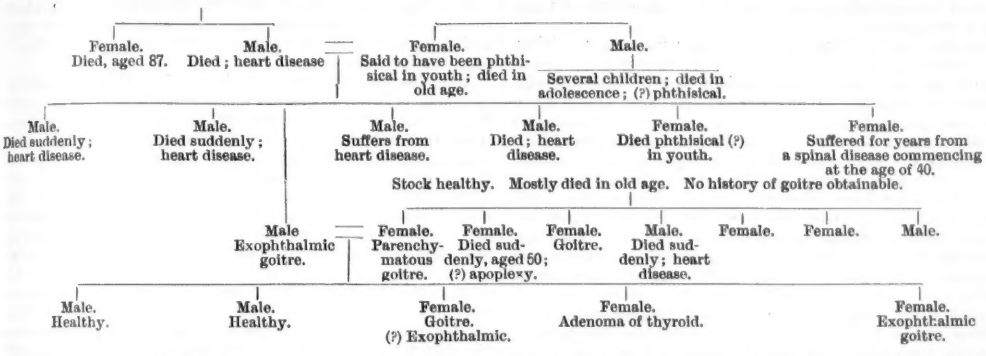
BY J. C. NEWMAN, M.B., B.C. CANTAB., F.R.C.S. ENG.

AN unmarried woman, aged 31 years, consulted me in September last year for shortness of breath, general weakness, and nervousness. There was evident exophthalmos, the thyroid gland was markedly enlarged, the pulse-rate was 120 per minute, and fine tremors of the fingers were demonstrable. The patient was well nourished and did not appear to be any thinner than when I had last seen her about six months before. The following is the result of further examination. The action of the heart was visible, rapid, and forcible. The apex beat was in the fifth interspace just internal to the nipple line. There was a systolic bruit over the base, but no murmur of valvular incompetency was diagnosed. I considered that the heart was somewhat, but not excessively, dilated. The arteries of the neck pulsated forcibly, and there was a loud "bruit de diable" heard over the thyroid gland. Exophthalmos was very marked. Stellwag's and Graefe's signs were present. The thyroid gland was enlarged, the left lobe being more so than the right. The whole gland was very sensitive to pressure.

The history of the illness is as follows. About ten months previously I had attended the patient for a "bilious attack" with diarrhœa and vomiting of unexplained origin. The attack passed off in two days. I noticed at the time a slight enlargement of the thyroid gland, but there were no exophthalmos and no unusual rapidity of the pulse, and the possibly true explanation of the attack did not occur to me. The mother has since told me that she was, then and after, anxious concerning her daughter's health, and that at about that time she noticed that she began to complain of the heat, although she had previously been a "chilly" person. She had no further symptoms, except occasional shortness of breath, for about six months, when she began to notice a feeling of weakness on exertion. This increased for three months, when she suddenly became very much worse, and was obliged to seek advice. In her past history there is nothing of importance, although before puberty she was considered delicate.

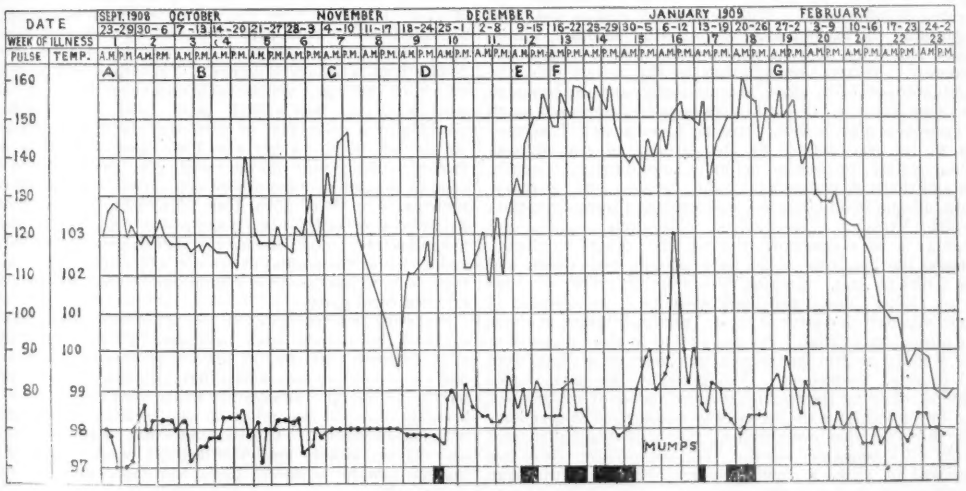
Her family history is interesting, and a scheme illustrative of it, so far as I have been able to trace it, is appended. Her father was more or less an invalid after the age of 39 years, when he had a "nervous breakdown." From this time he was liable to "totter as he walked" and at times he used to "shake a great deal." He developed "delusions" at 52. At 53 he had exophthalmic goitre, which terminated in acute mania and death at 55. The mother has had since girlhood a parenchymatous goitre. She has also suffered for many years from an "irritable colon"—i.e., the slightest indulgence in fruits, or even, at times, in green vegetables, will produce frequent large evacuations of undigested stools, accompanied by pain and much distress. She has been prostrated for weeks at a time from this cause. She is in other respects healthy. The family consists of two brothers,

who are healthy, and three sisters. The eldest sister has an enlarged thyroid, and she and her family state that at one time she suffered from the symptoms of exophthalmic goitre, although she never sought medical advice for it. She is now in good health. The second sister has an adenoma of the thyroid gland. She enjoys good health, but says that the gland at times gets uncomfortably large. The third sister is the subject of these notes.


Female. Died, aged 87.
Male. Died; heart disease
Female. Said to have been phthisical in youth; died in old age.
Male. Several children; died in adolescence; (?) phthisical.
Male. Died suddenly; heart disease.
Male. Died suddenly; heart disease.
Male. Suffers from heart disease.
Male. Died; heart disease.
Female. Died phthisical (?) in youth.
Female. Suffered for years from a spinal disease commencing at the age of 40.
Stock healthy. Mostly died in old age. No history of goitre obtainable.
Male Exophthalmic goitre.
Female. Parenchymatous goitre.
Female. Died suddenly, aged 60; (?) apoplexy.
Female. Goitre.
Male. Died suddenly; heart disease.
Female.
Female.
Male.
Male. Healthy.
Male. Healthy.
Female. Goitre. (?) Exophthalmic.
Female. Adenoma of thyroid.
Female. Exophthalmic goitre.

The patient was kept in bed, the number of her visitors was strictly limited, her society being practically confined to that of her mother, with an occasional short visit from a brother or sister. She was put upon a diet from which red meats, tea, coffee, and alcohol were excluded, and which consisted chiefly of milk and milk foods, fish, a little game, chicken, and bread and butter. The drugs employed will be discussed later. The course of her illness is indicated in the appended chart. Dr. J. S. Risien Russell, Dr. Howard H. Tooth, Dr. Hutchison, and Dr. H. Lewis Jones saw her in consultation with me. The pulse-curve on the chart indicates the highest daily reading from the charts kept at the time. Most, but not all, of the larger gross variations seem to be capable of explanation. Thus, there was for the first four weeks a gradual fall, presumably due to the rest in bed and other treatment. The rise at the end of the fourth week (Oct. 20th) was coincident with a very bad and persistent attack of palpitation, which was only partially controlled by the hypodermic injection of a quarter of a grain of morphia. From this time the patient steadily became worse. The palpitation became more troublesome, the thyroid grew larger, and the patient became more restless and distressed.

In consequence of her increasing illness Dr. Tooth was asked to see her, and his suggestion of Nativelle's digitalin accounts for the drop in the pulse-rate of the seventh and eighth weeks. Commencing with a quarter of a milligramme per diem on Nov. 8th and 9th, the same dose was given twice on the 10th and five succeeding days, when a single dose per diem was again given. The effect on the pulse is the more remarkable when it is considered that the patient was previously taking large doses of the tincture of digitalis. With the fall in the pulse-rate the patient certainly became more restful and composed, and she also slept better. Improvement, however, in other respects did not coincide. The thyroid did not decrease in size, nor was the palpitation much better. On Nov. 18th, while she was still taking a quarter of a milligramme of digitalin per diem, the pulse-rate suddenly, one evening, jumped to 118. An increase of the dose had no effect, and as she complained of feeling sick it was stopped altogether. However, on the 24th she vomited and hereafter the attacks of vomiting seem to account for the high pulse-rate, nor is it surprising when one considers the terrible state to which she was reduced by them.



The upper line is the pulse curve and indicates the highest daily reading from the charts kept at the time. The lower line is the temperature curve. The letters on the chart indicate the general medicinal remedies employed, thus:—A, Tinct. belladonnæ and liq arsenicalis; B, tinct. belladonnæ and tinct. digitalis; C, digitalin nativelle; D, rodagen; E, opium and morphine; F, X rays; and G, sauerin. Attacks of vomiting are indicated by the blackened spaces.

The condition of the heart was, on the whole, the bright spot throughout her illness. The dilatation which was present at the commencement was certainly increased during the period of vomiting and excessive rapidity of pulse, but never to the extent that one would have thought inevitable. There was a slight systolic bruit to be heard over the base, but I could never make out a murmur which I thought due to valvular incompetence, excepting after the last attack of vomiting on Jan. 24th. On that day and for about ten days

after there was a murmur which I took to be a mitral regurgitant blow. However, it had disappeared by the second week in February, and the heart now appears natural. As regards the action of the heart, it was for the first 13 weeks of her illness astonishingly regular, and at times a beat of over 150 per minute could be counted at the wrist. There were, however, times of faintness when it became imperceptible at the wrist, and during the later weeks it became very irregular in rhythm and force, at times very alarmingly so.

The most painful feature of the case was the vomiting. There were six definite attacks of this, lasting from two to seven days, and although the patient was occasionally sick between the attacks the sickness was on these occasions of a less malign character, relief being obtained by the emptying of the stomach. The first attack occurred on Nov. 24th and was at the time ascribed to the digitalin administered. It appeared to be controlled by cerium oxalate in usual doses. The second and subsequent attacks were more serious. Their duration is shown on the chart by the blackened spaces. Similar characteristics marked them all. A feeling of nausea would increase in intensity for about 24 hours and culminate in an act of vomiting, the vomited matter being usually bile. An hour or so later an attack of retching and vomiting would ensue, which would last from ten minutes to an hour and a half and completely prostrate the patient. After the cessation of the attack she would doze off into a broken and restless sleep for a few hours, from which she would be aroused by another attack of sickness. During the third attack the vomit, hitherto bilious, became coffee-ground in character, and in the later attacks it was occasionally fæcal. There was always a tendency for the bowels to be loose during these attacks, especially towards the end of them, and after the last attack there was copious melæna.

The condition during these attacks was desperate, and indeed at the close of the fourth and sixth she appeared moribund. Although not absolutely unconscious, she was oblivious to her surroundings, and seemed much like a person in the last stages of a septic peritonitis, with the exception that she appeared to suffer more. With a parched tongue, her pulse uncountable, she lay in a state of muttering delirium, unable to raise her voice above a hoarse whisper or to control her sphincters. Having brought her to the lowest ebb, the vomiting appeared to cease automatically, and she began to make slow recovery. Of each of the remedies employed much the same tale may be told. Raising hopes at first, it seemed later to be overwhelmed by the severity of the disease. Cerium oxalate, tincture of iodine in large dilution, bismuth, soda and rhubarb, prussic acid, salol, carbolic acid, mercury, cotoin, adrenalin and cocaine, separately and in combination, atropine, hyoscine, hyoscyamine, chloretone, opium, and morphia is a melancholy list of the drugs employed. Of these the last two alone were of any real value, and they failed at last. Keeping the stomach empty of food had no effect. The organ filled with bile, the ejection of which was only a matter of time. Stomach lavage at times gave a temporary relief. Blisters or ice to the epigastrium were, I think, helpful for the nausea. Nutrient enemata were well retained throughout. During the earlier part of this period of vomiting the feeding was the matter of the greatest care, but in the later stages she was encouraged to take anything in reason that she fancied. She took tea, coffee, and brandy with apparent benefit. For the rest her food was composed of milk, a few eggs, and biscuits with large quantities of water. She was given strychnine hypodermically. Her body weight was fairly well maintained till the second attack of vomiting, which was accompanied by rapid and extreme wasting. Between each attack she would pick up, to be reduced to extreme emaciation by the succeeding one. The general medicinal remedies employed are shown by the letters on the chart. The belladonna was certainly useful throughout in checking palpitation and restlessness, but I could not see any general beneficial effect, although it was pushed to the verge of poisoning. The arsenic and tincture of digitalis were, I believe, useless, nor do I think the rodagen, though given in full doses, had the slightest effect.

On Dec. 18th Dr. Lewis Jones exposed the thyroid for seven minutes to the X rays. Subsequently I continued the treatment about twice weekly till Feb. 20th, 1909, exposing alternate sides of the gland at each application. The treatment certainly appeared to me to have some beneficial result, and in this way. The second attack of vomiting had been accompanied by rapid wasting, in which the thyroid participated, but after the attack was over the gland became as large as ever within two days. This wasting occurred again during the third attack, after the commencement of the X ray treatment, but the re-enlargement was very much less marked, and after the fourth attack the gland remained in the condition in which it has been ever since—viz., the right lobe normal, the left lobe the site of an adenoma of about the size of a Tangerine orange. Her neck was at this time, and is now, smaller, according to her own account, than it has been for some years.

After the last attack of vomiting (Jan. 18th to 24th) the diarrhœa was considerably more troublesome than usual. The stools, to the number of six to nine daily, were large and watery, and were accompanied by much abdominal pain and tenesmus, and for part of this period there was melæna. Starch and opium enemata, bismuth, opium, cotoin, salol, and carbolic acid by the mouth produced no apparent benefit. After this condition had lasted for a week the patient was put upon milk soured by the lactic acid bacillus, in addition to a continuance of the treatment by opium and bismuth (which was continued for another five days). It is curious that from the commencement of the sour milk she began to have relief, not only from the diarrhœa, but from all her other symptoms, and that from this date her improvement was a steady one in every respect. The fact that the improvement followed so closely on the administration of sour milk, would, I suppose, suggest that the latter was not the prime cause of it. It must, however, be remembered that her diet at this time consisted of little else than milk, and that her stomach was dilated and probably in a condition of atony. Under these conditions her intestines may have received little else than soured milk, and this after they had been pretty thoroughly flushed out. The suggestion that her improvement was due to the exclusion of intestinal toxins, probably assisted by the fact that the activity of the thyroid had been reduced by the X rays, seems to me to be at the moment a legitimate one.

During the illness there were two intercurrent complaints of some interest. One was an exceedingly bad attack of conjunctivitis in both eyes (followed by a corneal ulcer in one), which commenced after her room had been filled with smoke from a smoky chimney. The other was a typical attack of mumps, which commenced on Jan. 7th, at a time when she was a little better, and which, although occasioning a good deal of pain and discomfort, appeared, on the whole, to do her very little harm. There is satisfactory evidence that no one who came into her room had been in contact with mumps except myself. I had attended such cases on Dec. 15th, 16th, 19th, 20th, 21st, and 22nd. An interval of at least two hours and a drive in the open of five miles intervened between my visit to any case of mumps and a visit to the patient at present under discussion. These facts seem to indicate that mumps can be conveyed by a non-infected third party.

Since the last date noted on the chart the patient has had some slight trouble from urticaria. There is still slight exophthalmos, the thyroid adenoma remains, and she has had on one or two occasions a little palpitation. The tremors have gone and she has regained her normal weight. She has been able to walk two miles on the level or to go upstairs without discomfort. The pulse-rate has kept between 80 and 90 per minute until the last few weeks. During the present month, however, there has been some return of tachycardia.

Bishop's Stortford.

THE ROYAL SANITARY INSTITUTE.—A meeting will be held on Dec. 8th, at 8 P.M., at 90, Buckingham Palace-road, when a discussion will take place on the Collection and Disposal of House Refuse, to be opened by Mr. J. S. Brodie, M.Inst.C.E., borough engineer, Blackpool. The chair will be taken by Mr. H. Percy Boulnois, M.Inst.C.E., and a general discussion is invited. The new museum providing greater accommodation, the committee is arranging for short exhibitions of sanitary apparatus. The first exhibition, showing working models of sewage distributers and sprinklers in action, is now open for inspection by members and others till the end of January, 1910. The museum is open daily from 9.30 A.M. to 5.30 P.M., and on Mondays to 8 P.M.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF HENOCH'S PURPURA; LAPAROTOMY; PNEUMONIA; DEATH.

BY J. BASIL COOK, M.D., B.CH. VICT., D.P.H. CAMB.,
SENIOR ASSISTANT MEDICAL OFFICER, KENSINGTON INFIRMARY, W.

THE following case, having so many points of similarity with that reported by Mr. F. C. Pybus in THE LANCET of Oct. 9th, may prove interesting. The patient, a boy, aged 13 years, was admitted to Kensington Infirmary on March 11th, 1907, stated to be suffering from "acute rheumatism." Upon admission both knees and ankles were swollen, tender, and painful; there was a rash upon the legs which was considered to be peliosis rheumatica; the temperature was 98° F. and the pulse was 96. Three days later he had an attack of vomiting and complained of pain in the abdomen which was most severe in the umbilical region. On the next day the symptoms increased in severity, the vomiting was more frequent, and the vomited matter was blood-stained. There were diarrhœa and tenesmus, blood and mucus being passed in the stools. On the following day the patient was worse, having dulness in the left iliac fossa and a mass of something easily felt on the left side of the abdomen. The bowels were opened frequently, the motions still being blood-stained. A consultation was held, and the possibility of the condition having a purpuric origin was considered; but as the symptoms pointed so strongly to intussusception an operation was decided upon.

The abdomen was opened by Dr. H. P. Potter and a portion of intestine which felt like an intussusception was easily found. A careful examination showed it to be a portion of the small intestine which was considerably thickened for a distance of about 6 inches. Upon tracing this thickened piece of gut upwards and downwards one came upon normal intestine. The thickening was due to extensive extravasation of blood under the visceral peritoneum. Between the fingers this felt like worms in a bag. A few inches lower down there was a second piece of intestine of precisely similar appearance. No peritonitis was present and the incision was closed. The diarrhœa and vomiting persisted for several days but finally ceased on March 22nd, upon which day broncho-pneumonia developed on the left side. On March 23rd the cough was bad and the breathing distressed. A purpuric eruption appeared upon places where there was pressure. The urine was albuminous. From March 23rd to April 9th fresh crops of spots appeared almost daily upon various parts of the body, the head, trunk, limbs, hands (back and palm), and feet (dorsum and sole) being in turn affected. The patient began to get œdematous on April 11th, by which date the urine on heating was practically solid with albumin. The patient died suddenly on April 24th.

At the post-mortem examination there were found pleuritic adhesions and broncho-pneumonia in the left lung, a patch of purpuric staining on the left ventricle, and large white kidneys. The other organs were healthy.

I am indebted to Dr. Potter, medical superintendent, for permission to publish these notes.

A CASE OF ASTHMA WITH VASO-MOTOR COMPLICATIONS.

BY W. MILLER, M.D. EDIN.

IN view of the annotation on "Asthma and Urticaria" in THE LANCET of Oct. 23rd the following case may be of interest.

On Sept. 5th last I was called to see a lady, aged 34 years, who had been taken suddenly ill. It appeared that she had been suffering from a slight cold for some weeks. About midday on Sept. 5th she was stung by a wasp at the root of the second finger of the left hand. She applied a "blue bag." About 10 minutes later she had a paroxysm of sneezing, and as it passed off felt very ill and faint, and was with some difficulty got to bed. When I saw her, about three-quarters of an hour later, she was propped up in bed, somewhat cyanosed, the respirations were 30 per minute and characteristically asthmatical, the pulse was 120 per minute, regular, but very soft and small, and the limbs and trunk were covered with large urticarial wheals. It was said that she was then better than she had been. Small quantities of brandy were given, and a spray, containing atropine and cocaine in a saturated solution of hyponitrous acid gas, was used frequently. Under this treatment the asthma subsided. The site of the wasp sting was freely scarified and a compress applied. An hour later I was hurriedly summoned, as "the uvula was displaced and choking her." The nettle-rash was now fading, the respirations were 20 per minute and slightly noisy, but not asthmatical, there was a constant dry cough, the pulse was 100 per minute, regular, but very weak, and there was considerable cyanosis. She had fainted once before my arrival. On examining the throat the uvula was seen to be very swollen, œdematous, and to a large extent blocking the isthmus faucium; the soft palate was also œdematous. I immediately swabbed the palate and uvula with a solution of adrenalin chloride, 1 in 1000, and as the patient fainted gave a hypodermic injection of digitalin. For an hour her condition remained most critical, she being almost pulseless. During this time the fauces were repeatedly swabbed with the adrenalin chloride solution, digitalin and strychnine were administered hypodermically, and, as she gradually improved, brandy was given by the mouth. Two hours later Mr. Cleveland Smith of Southend kindly saw her with me. Her condition was then quite satisfactory. The pulse was 90 per minute and of relatively fair volume, the respirations were 18 per minute and of normal character, the œdema of the palate and uvula had almost gone, and there were only faint traces of the nettle-rash. During the next fortnight there were slight asthmatical attacks which were controlled by the use of the spray; she then went to Brighton for 10 days, since when these have ceased. She is now (Nov. 1st) gaining strength, but the pulse is still feeble and there is palpitation on exertion.

There was no history of any previous asthma, but it was stated that her pulse had been commented on as being small by several medical men. There had been several previous wasp stings during the past summer, none of which had any constitutional sequelæ. On examining the site of the sting it was seen to be immediately over a small cutaneous vein, and it would seem possible that some poisonous matter may have been introduced directly into the circulation.

Rayleigh, Essex.

NOTE ON A CASE OF PITYRIASIS RUBRA PILARIS.

BY D. WELLS PATTERSON, M.B. DURH.,
ASSISTANT PHYSICIAN, DEPARTMENT FOR DISEASES OF THE SKIN, ROYAL VICTORIA INFIRMARY, NEWCASTLE-ON-TYNE; PHYSICIAN TO THE HOSPITAL FOR DISEASES OF THE SKIN, NEWCASTLE-ON-TYNE.

A YOUTH, aged 20 years, consulted me at the Hospital for Diseases of the Skin, Newcastle-on-Tyne, for an eruption which had first developed in March of this year. The disease first showed itself as an itching, red, scaly eruption of the face. After about a week it commenced to spread downwards on to the trunk and arms, and finally, in about a month from the commencement the legs were involved. At the same time the patient noticed horny points, developing on the chest first, but soon afterwards on the rest of the body, the arms, hands (especially the backs of the fingers), feet, and legs. Itching was at first very troublesome, but subsided soon after the onset. The patient states that there was no interference with his general health, and that he felt no inconvenience with the exception of the itching and a feeling of tightness in the skin generally.

The following was the condition on examination: The scalp showed a moderate amount of dry seborrhœa and the hair, though abundant, was dry and lustreless. The face was yellowish-red and covered with fine dry scales. The yellowish-red colour extended slightly on to the trunk and was also well marked on the front of the shoulders, in front of the elbow-joints, and on the anterior and posterior surfaces of the lower thirds of the forearms. It was also well marked on the lower part of the abdomen and over the buttocks. The skin

over the whole of the body, from the upper part of the trunk downwards, showed horny papules occupying the situation of the hair follicles, many of the papules being pierced by short broken hairs. In some places the papules were so closely set together that the skin felt like a very coarse nutmeg-grater. On the backs of the fingers the lesions remained discrete. There was very marked hyperkeratosis of the palms and soles, and in the latter situation the thickened epidermis was peeling off in large flakes. The nails were not affected. Apart from the condition of the skin the lad was perfectly healthy, and the urine was in every respect normal.

This case throws no light whatever on the obscure etiology of pityriasis rubra pilaris, and the whole condition was so marked that there was no difficulty in the diagnosis. Perhaps the one unusual feature of the case was the scanty amount of scaling on the body, though on the face this was well shown. My reason and excuse for publishing the case is that every case of this disease which is described may help to establish it as a clinical entity and to clear up disputed points in differential diagnosis.

Newcastle-on-Tyne.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

PATHOLOGICAL SECTION.

Autoplastic and Homoplastic Transplantation of Tumours of Mice.—Dissemination of Carcinoma by the Blood Stream in Animals.—Experimental Production of Sarcoma in Mice.—Oöphorectomy and the Uterus in the Rabbit.—Transverse Lesion of the Spinal Cord.—Retro-peritoneal Teratoma Connected with the Spinal Canal.

A MEETING of this section was held on Nov. 16th, Dr. F. W. MOTT, the President, being in the chair.

Dr. M. HAALAND read a paper on Autoplastic and Homoplastic Transplantation of Tumours of Mice. He said that he wished to bring before them some results of transplanting sporadic tumours of mice into the same mouse in which the tumour had arisen, as compared with corresponding transplantation into other spontaneously affected mice and in normal animals. The only previous attempts at systematic investigation of this kind, besides single cases reported by Loeb, were those recorded from the laboratory of the Imperial Cancer Research Fund. Four mice were inoculated with their own sporadic tumours with two successes; six mice with other sporadic tumours with only one success; three of the tumours employed were tested in normal mice, giving eight tumours in 325 inoculated mice. Loeb's cases were a mammary tumour of a rat re-inoculated into the same animal with positive results, and into two other rats with negative result, and also a tumour of a dog into the same dog and into three other dogs. The provisional results to which Dr. Haaland drew attention were: Of 17 spontaneously attacked mice after removal of the original tumour each inoculated with their own sporadic tumour, 16 had given continuously growing tumours; that gave a positive result in 94 per cent.; only in one the result was negative. Of 27 transplantations of the same tumours into other sporadic mice, only two had been attended with success (i.e., in 8 per cent.) Of the spontaneous tumours employed, 6 had been tested in normal animals; 3 of these were negative in 700 animals, while 3 others gave 32 tumours in 279 mice (i.e., ca. 12 per cent).

—	Auto-transplantation into sporadic mouse itself.	Homologous transplantation.		
		Other mice with sporadic tumours.	Young normals.	Old normals.
2 cancroids	2/2	0/3	0/686	—
1 sebaceous carcinoma	1/1	0/4	4/42	—
14 mammary adenocarcinomata ...	13/14	2/20	28/251	0/12
Total	16/17	2/27	32/979	—

These experiments allowed some conclusions to be drawn both upon questions connected with transplantation in general and on certain aspects of the problems of cancer. First they illustrated very well the differences obtaining between autoplastic and homoplastic transplantation. Reintroduced into the organism to which they belonged—i.e., into the soil to which the cells were accustomed—they found all conditions for continued existence and growth. Quite different were the conditions in other individuals of the same species, of the same age and sex. By no other means could the existence of individual biological differences between animals of the same species be proved more clearly and the specificity of the *milieu* each animal represented be demonstrated more strikingly. The experiments showed the advantage which would be gained by the surgeon by employing tissues from the same individual in all transplantations, and showed that it was unreasonable to expect an equally good result with tissues from other individuals. Beside these general conclusions as to transplantation, the experiments had more direct bearing on certain problems of cancer. They demonstrated very strikingly a well-known fact—viz., the danger for the individual operated on if cancer cells were disseminated in the wound and the overwhelming probability that recurrence would follow upon such dissemination. On the other hand, they showed the relatively insignificant danger these cells represented to other individuals, even when introduced under most favourable conditions. This last point had a direct bearing on one of the theories of cancer origin one now and then comes across—viz, that implantation of cancer cells from one individual to another played an important rôle in spreading the disease. Even if no other proofs existed to show that cancer always arose *de novo* in the organism attacked, the consideration of the facts elicited by these experiments showed the improbability of the transference of cancer cells from one individual to another having any etiological significance. Furthermore, these experiments threw light on hypotheses assuming cancer growth being due to a differential of avidity between tumour cells and body cells. The "avidity" of cells could only be tested in an imperfect and indirect way; the "avidity" of tumour cells by their behaviour on transplantation into normal animals, and the "avidity" of body cells by comparison of the suitability of the animal as soil for tumour growth with that of normal animals. In these experiments they had two cancroids which were tested by inoculation into 1000 young normal mice, of which 686 lived more than four weeks, but did not grow in a single animal. In this case it was difficult to assume any increased avidity on the part of the tumour cells. Each of those tumours was transplanted into its own mouse and here gave rise to progressively growing tumours. According to the theory they would expect that the body cells of the mice which allowed cells of such low "avidity" to grow, possessed a still lower degree of "avidity," and that, therefore, these mice would be more susceptible to transplantation of other tumours. But this was not the case. By exchanging grafts between the two animals in which these cancroids had arisen they did not obtain any growth, and these mice were not only refractory against tumours of low avidity, but when tested with another sporadic tumour which grew well in normal mice they also showed themselves completely refractory to this tumour of higher avidity. This experiment was only one instance of a series of similar experiments which all gave similar results. They showed that the conditions for tumour growth were far more specific than was allowed for by the supposition of a mere differential of avidities. In fact, the cells of each sporadic tumour were adapted for a specific *milieu* and only in this *milieu* were they able to unfold their real powers of assimilation and growth. The conditions for which two histologically indistinguishable tumours were adapted were so different that they could not be exchanged without the malignant mode of growth ceasing altogether. He had earlier attracted attention to a similar specificity of the conditions for growth, which under certain conditions might be exhibited by transplantable tumours. Two different transplantable tumours, a carcinoma and a sarcoma, each adapted to a different strain of mice, were mixed together and injected into mice of both strains. The cells of each tumour showed in this case an elective power for that strain to which they were adapted, so that in each of the two groups of mice only those tumour cells grew which previously were adapted to this special strain. In these transplantations of sporadic tumours they met

with the same phenomenon, only even more pronounced; the conditions of growth were specific for each individual sporadic tumour. The phenomena of immunity to inoculation of cancer exhibited a parallel specificity as shown by Bashford, Murray, and Cramer, and by the author of the paper. While the conditions for *progressive* growth of the cells of a sporadic tumour were relatively seldom found in other spontaneously attacked animals, a *preliminary* growth lasting a few weeks was not so seldom observed. This phenomenon of preliminary growth was the same as that which was so frequently seen in transplanted tumours, and it suggested that simultaneous immunisation had to do with the final negative result. The experiments showed that tumour cells from another individual were far more susceptible to such a reaction than were the cells originally belonging to the same individual. The latter either did not set up any immunity reaction on their reintroduction in the body, or if such a reaction was set up, as seemed possible from Woglom's experiments made in the Imperial Cancer Research Laboratory on immunising mice with their own spleens, it had no effect against cells belonging to the same organism.

Dr. J. A. MURRAY demonstrated specimens showing the Dissemination of Carcinoma by the Blood Stream in Animals.

Dr. B. R. G. RUSSELL spoke on the Development of Sarcoma arising during the Propagation of a Hæmorrhagic Adeno-carcinoma of the Mamma of the Mouse. After referring to the observations already made and published by Dr. Haaland upon this subject, the speaker proceeded to describe the histological and biological behaviour of a tumour of the mouse which also gave rise after 15 months of propagation to tumours composed of carcinomatous and sarcomatous elements. This tumour, strain "100," was the second tumour which had, in the laboratory of the Imperial Cancer Research Fund, given rise to secondary sarcoma development. The primary growth of the tumour in question was a hæmorrhagic adeno-carcinoma of the mamma of an old female mouse, and situated in the left groin. The tumour was removed by operation, but recurred, and finally the animal had to be killed, when it was found that there were present large metastatic deposist in the lungs. Material from the primary and recurrent growths was successfully transplanted and gave rise to the tumour-strain "100" of the Imperial Cancer Research Laboratories. No trace of sarcomatous tissue could be seen either in the primary, recurrent, or metastatic growths, and the tumours obtained by transplantation remained pure carcinoma for a period of 15 months. At this period it was noted that one tumour which had grown for a very long period (57 days) in one mouse showed at one part a change in the character of the stroma whereby the normal connective tissue was replaced by an actively growing sarcomatous tissue composed of elongated spindle cells arranged in interlacing bundles. Three other very old tumours of this strain also showed the same change, whereas in none of the young tumours could any such change be seen. As it appeared that long residence of the carcinomatous cells in one animal played a rôle in the production of the sarcomatous change, a systematic investigation of the tumour was made with the object of proving or disproving this possibility. Pure carcinomatous tumours were transplanted, and a certain number of the resultant tumours were killed after 30 days' growths, an equal number being allowed to grow until threatening ulceration from expansion of the overlying skin required the destruction of the animal. It was found that the tumours 30 days old always remained pure carcinomata, whereas the sister tumours which were allowed to grow for from 50 to 60 days or more almost invariably showed in some part of the tumour a neoplastic transformation of the stroma. Once initiated this sarcomatous proliferation rapidly spread throughout the tumour, and when these mixed tumours were transplanted the invariable result was the complete elimination of the epithelial constituent of the tumour. This occurred sometimes after one passage as mixed tumour, more usually after two or three passages. That the tumours thus produced were really sarcomata he regarded as being absolutely proved, and referred to Dr. Haaland's work upon the transplantation and metastasis formation of these sarcomata as having already fully proved this question. By choosing young tumours for transplantation it has been also possible to maintain parallel strains of pure carcinoma, which could always serve as fresh starting points for the study of sarcoma development. In tumour "100" the possibility of a primary mixed tumour could not be entertained; the hypothesis that the sarcomatous cells were merely morphologically altered epithelial cells was also quite out of the question. He believed that in tumour "100" the epithelial cells induced after prolonged contact with the stroma cells, 50–60 days, a neoplastic transformation of the connective tissue cells, but did not attempt to premise more definitely the nature of that influence.

Dr. E. F. BASHFORD said that the three communications formed evidence of the very special nature of the investigation of cancer at the present time. The domination of cancer research by medical dogma had passed away and the investigation of cancer was rapidly advancing and could stand alone. Much that had been thought to be fundamental would be overthrown and much that was new would come out. It was now the turn for the investigation of cancer to modify pathological and medical doctrines in many directions. He did not deny the possibility of the parasitic etiology of cancer, but he did deny any analogy between cancer and the processes occurring in any known form of infective disease.

Mr. S. G. SHATTOCK showed the results upon the Growth of the Uteri of Double Oöphorectomy when carried out upon the young rabbit without the application of any ligatures and without injury and displacement of the rest of the generative apparatus. The result in question was a striking overgrowth of the uteri (which in the rabbit are two), as compared with those of an animal of the same size whether it had been pregnant or not. In the case of the human subject it was still doubted by some whether the ovary was the organ which dominated the growth of the rest of the generative apparatus. The evidence to the contrary in the case of man was indirect and inconclusive. The case was parallel with that of the ill-development of the testicles in cryptorchism. In scarcely any cases of bilateral cryptorchism was there evidence that the testicles were spermatogenic. Nevertheless, such individuals might present all the external secondary marks of maleness. The right deduction must be that the hypoplastic undescended testicle functions for a short period only, and then rapidly becomes senile, and as in the case of the ovary the speaker held that a fully developed condition of the uterus was evidence that one or both ovaries had at some time functioned, though they might have afterwards functionally atrophied; the disparity presented between the size of the ovaries and that of the uterus might be erroneously read as a proof that the uterus had grown independently of any ovarian influence. In both sexes the speaker held that the external sexual characters were due to the production of an internal secretion, which probably acted upon the vascular supply of the accessory organs through the nervous system, but he thought that the production of this was in some indirect way dependent upon spermatogenesis or ovulation. There was a belief current amongst poultry breeders that section or partial excision of the oviduct in young hens led to atrophy of the ovary, the procedure being adopted to produce poulardes or fat birds for the table. This belief Dr. C. G. Seligmann and he had demonstrated to be quite erroneous by removing the oviduct in young birds and examining the ovary when the birds were fully grown.

Dr. S. W. SEWELL and Dr. H. HUME TURNBULL reported a case of Transverse Lesion of the Spinal Cord at the level of the sixth cervical vertebra. The patient was a boy, aged 14 years, who was knocked down by a motor cab, sustaining a fracture-dislocation at the level of the sixth cervical segment. Some movement in the right arm was retained and slight movement at the left shoulder, but there was otherwise complete paralysis of the limbs and trunk, with priapism and loss of sphincter control. Tactile sensation was diminished, but present below the level of the lesion, accompanied by marked thermo-anæsthesia. Death ensued eight weeks after the injury. The pathological examination dealt with (1) tract degenerations, ascending and descending, from the lesion; and (2) the changes produced in the cells of origin of the fibres injured. 1. Below the lesion descending degeneration, as shown by Marchi staining, was present to a marked degree in the crossed and direct pyramidal tracts, and to a lesser degree in the rubrospinal and vestibulospinal tracts. The comma tract was degenerated as far as the ninth dorsal segment and below this region Flechsig's oval area, and the triangle of Phillipe showed degenerated fibres, the latter tract as low as the third sacral segment. Marked degeneration was present on either side of the anterior fissure of the cord as low as the third

sacral segment, and since the direct pyramidal tract terminates in the upper lumbar region it was suggested that these fibres constituted the tract originally described by Mott from the corpora quadrigemina. The fact that these fibres descend to the upper sacral segments suggested some connexion with the voluntary control of the sphincters. Ascending degenerations were present in the direct cerebellar tract to the restiform body and in Gowers's tract, which divided into two parts in the upper portion of the pons, part passing to the cerebellum by means of the superior cerebellar peduncle, part entering the common fillet. At a lower level considerable numbers of fibres passed from Gowers's tract to the region of Deiters's nucleus. The posterior columns were totally degenerated as far as the gracile and cuneate nuclei, but even above the decussation of the fillet scattered degeneration was observed among its fibres. Ascending scattered degeneration was also present in the anterior ground bundles and in the continuation of these—i.e., the posterior longitudinal bundles—through the brain stem. Degenerated fibres from the posterior longitudinal bundle passed outwards to Deiters's nucleus, one through the valve of Vieussens, and some to the corpora quadrigemina. Degenerated fibres passing from the fillet into the lateral nucleus of the thalamus were also found. Scattered degeneration of coarse fibres was present in the pyramidal tracts above the lesion. Sections of the middle and lateral lobes of the cerebellum showed degenerated fibres from the direct cerebellar tract and Gowers's tract, sweeping both to the roof nuclei and dentate nuclei, and to the neighbourhood of the granular layer of the cortex. 2. Cell changes. The leg areas of the ascending frontal convolutions presented marked Betz cell changes from slight degrees of chromatolysis and nuclear excentricity to ghost cells, though a few cells were normal. Similar changes were present in the cells of the lower portion of the arm area, while the face and trunk areas presented no changes. No changes were seen in the large pyramidal cells or in the ascending parietal convolutions. Similar chromatolytic changes were present in the cells of Clarke's column, as also in many of the large cells of the red nuclei and Deiters's nucleus. No changes were seen in the large motor type of cells of the thalamus.

Mr. RAYMOND JOHNSON and Mr. T. W. P. LAWRENCE exhibited a specimen of Retro-peritoneal Teratoma connected with the Spinal Cord. The patient, a boy of 2 years and 9 months, had a swelling in the abdomen which had been noticed for three months. The lumbar spine presented a well-marked lateral curvature with its concavity to the left, and the left half of the abdomen was occupied by a large elastic tumour passing back into the loin. Although the nature of the case was evidently obscure, it was regarded as probably one of tuberculous disease affecting the left side of the bodies of the lumbar vertebræ and thus causing a lateral rather than the ordinary angular curvature. In accordance with this view the swellings in the abdomen and loin were regarded as chronic abscesses. An exploratory incision in the loin, exposing cysts containing sebaceous material, revealed the true nature of the case. It being evident that the removal of the tumour was impossible, a large cyst was opened and a drainage-tube inserted. The patient became progressively weaker and died about five months later. A partly cystic, partly solid tumour was found lying behind the left kidney, and intimately adherent to the spinal column. The tumour measured 10 centimetres in diameter and reached as high as the tenth rib. A portion of the tumour, 5 centimetres in vertical measurement, projected into the spinal canal, displacing laterally the extremity of the spinal cord and the cauda equina, but not compressing them. Microscopically, the tumour showed fibrous tissue, fat, myxomatous tissue, smooth muscle, cartilage, bone, skin, and tubular spaces lined with columnar or ciliated epithelium. In parts the structures present closely resembled fœtal organs —bronchial tubes, intestine. The cysts contained sebaceous material, with hairs.

SECTION OF SURGERY.

General Spinal Analgesia.

A SPECIAL meeting of the Surgical Section, under the presidency of Mr. RICKMAN J. GODLEE, to which members of the Section of Anæsthetics were invited, was held on the afternoon of Friday, Nov. 19th, to listen to an address upon General Spinal Analgesia by Professor T. Jonnesco of the University of Bucharest. The chief points of the method introduced by the lecturer are indicated by our description of the demonstration given at the Seamen's Hospital. The address was followed by a number of lantern slides illustrating various operations in progress under spinal analgesia. Trephining, ovariotomy, and removal of the lower jaw were amongst the operations depicted, and a striking slide was one showing a surgeon operating upon his own groin. Professor Jonnesco was warmly thanked for his address and a number of questions were put to him, to which he replied in French, the language in which his address was delivered.

CLINICAL SECTION.

Pneumococcal Colitis.—Primary Hyperplastic Tuberculosis.—Exhibition of Cases.

A MEETING of this section was held on Nov. 12th, Mr. A. PEARCE GOULD being in the chair.

Dr. W. HALE WHITE, Mr. J. P. LOCKHART MUMMERY, and Dr. H. BRUCE-PORTER contributed a paper on a case of Pneumococcal Colitis with hyperpyrexia and severe hæmorrhage treated by appendicostomy. The authors stated that they had recorded the case because, in the first place, it was, they believed, unusual for a diagnosis of colitis due to pneumococcus to be made during life and confirmed by bacteriological examination; secondly, because it illustrated the difficulties of such a case and the successful treatment of hyperpyrexia by cold sponging—they especially drew attention to the beneficial effect of having run iced water through the colon; and thirdly, the case illustrated the value of appendicostomy as a means of stopping severe bleeding from the colon. Before the patient came under their notice the bowel had been washed out from the anus by intestinal douches without in any way controlling hæmorrhage, nor did the same method of applying hazeline and water have any effect during the four days it was tried before doing the appendicostomy. While the patient was in a nursing home she took her food very well, and on several occasions half an ounce of sterilised olive oil was injected under the skin; this was always completely absorbed, and thus the case showed the occasional advantages of that little-used method of feeding.

Mr. W. GIFFORD NASH described a case of Primary Hyperplastic Tuberculosis of the Stomach and Duodenum. He said that tuberculous disease of the stomach was very rare, and of the duodenum almost unknown. Most of the cases reported had been instances of tuberculous ulceration of the stomach, secondary to tuberculous disease elsewhere. Cases of hyperplastic tuberculosis of the stomach had been recorded by Mayo Robson and Beadles. Probably that affection had been mistaken for malignant disease. The case related was that of a woman, aged 33 years, who had suffered from gastric derangement for two and a half years and signs of pyloric obstruction for six months. The stomach was extremely dilated and a tumour was felt at the site of the pylorus. There were no signs of tubercle elsewhere. Operation revealed an elongated hard mass occupying the pyloric end of the stomach and the first part of the duodenum. The stomach and omentum were covered with tubercles. Gastro-jejunostomy was performed, with great relief of symptoms and improvement of the patient's condition. At intervals of 11 weeks and 14½ weeks after operation the abdomen was opened and drained of ascitic fluid. The patient died five months after the original operation, and no post-mortem examination was obtainable.—Dr. F. PARKES WEBER related a case of carcinoma of the bile-duct in which at the necropsy tuberculous tumours were found to be present.—Dr. H. D. ROLLESTON said that he had seen tumours which had been thought to be tuberculous turn out to be minute malignant growths.—Dr. W. CAMAC WILKINSON (Sydney) described how the diagnosis between cancer and tuberculosis could be settled by the use of tuberculin.—Mr. NASH explained that he had come to the conclusion on clinical grounds that the miliary tubercles were tuberculous.

Mr. PEARCE GOULD described a case in which he had removed from the patient a Vesical Calculus weighing 8 ounces when fresh; the stone had formed with great rapidity in the bladder.

Dr. ROLLESTON and Mr. G. D. H. CARPENTER showed a case of Scleroderma with Sclerodactyly. The patient was a woman, aged 30 years, who was shown at the Clinical Society in 1901 as generalised scleroderma with Raynaud's disease. Symptoms of pain and numbness in the hands and,

to a less extent, in the feet began in 1895. The scleroderma over the face, arms, and hands had advanced, whilst the feet and legs had recovered. The hands showed considerable ulnar deflexion and were flexed, claw-like, and almost immoveable. Attacks of local syncope and local asphyxia still occurred in the hands. During the last ten years she had had thyroid, iodides, and various vaso-dilators without any relief. She had always received benefit from electrical treatment. As the result of that and of massage and passive movements of the fingers there had been considerable improvement.

Dr. T. D. SAVILL showed a patient, a married woman aged 56 years, as the sequel of a case of Scleroderma of the Extremities (sclerodactylia, acroteric scleroderma of Hutchinson) associated with a previous and family history of angio-neurotic œdema. The patient had had attacks of angio-neurotic œdema throughout life. The patient's mother and one of her two daughters also suffered from attacks of angio-neurotic œdema throughout life. The patient's attacks of angio-neurotic œdema ceased two and a half years ago, when the hands and feet first began to get hard and stiff. When she was first shown to the section in April last she could walk easily, but now only with the greatest difficulty. The thickening of the skin had extended up the limbs. The joints had become stiffer and more creaky, showing that changes were taking place within the joint structures as well as in the skin around. In spite of careful diet and medicinal and electrical treatment she had become progressively worse. —A discussion followed, in which Dr. J. GALLOWAY, Dr. W. P. HERRINGHAM, Dr. ROLLESTON, and Dr. SAVILL took part.

Mr. ARTHUR H. EVANS showed a patient on whom he had performed the operation of excision of the larynx, of part of the pharynx, and upper end of the œsophagus for malignant disease (squamous-celled carcinoma) of those structures.

Mr. T. H. OPENSHAW showed three cases. The first was one of Rheumatic Spondylitis with Torticollis. The second was a case of Rheumatic Spondylitis with Torticollis and Atlo-axoid Subluxation. The third was a case of Myopathy, infantile type. In the list of cases it was described as Batten's Frog-child. The patient, a boy aged 7½ years, first came under Mr. Openshaw's care in April last. He had never been able to walk. He could move his arms and legs till the onset of measles at the age of 18 months. After that he could not move his legs. His mental condition was excellent. He could not stand, even with aid. He made no effort to hold himself up. His general muscular condition had improved. He could now sit up unaided by pressure of hands on the floor. He could not stand on his feet, but the leg movements were stronger than on admission to hospital.

SECTION OF ANÆSTHETICS.

Heart Massage in Chloroform Syncope.

A MEETING of this section was held on Nov. 5th, Mr. R. GILL, the President, being in the chair.

Dr. VIVIAN B. ORR read a paper on Heart Massage in Chloroform Syncope, with a report of a successful case. Dr. Orr said that the history of the evolution of this treatment with the information obtained from experiments on both cold- and warm-blooded animals showed that there was reasonable ground for testing its applicability to man. The inadequacy of the usual methods of restoring life in cases of heart failure under anæsthetics seemed undeniable, while, in the light of both written and verbal evidence, the claims of massage appeared to be clearly established. The different indications, the various possible modes of action, and the technique were discussed. The sub-diaphragmatic route was shown by results to be the preferable method of reaching the heart; 10 successful cases had been reported resulting from this procedure. The most difficult point to decide was the exact moment when this treatment should be applied. The higher nervous centres seemed to be irreparably damaged before the lower centres, and these again before the intrinsic heart vitality, and cases were cited which exhibited a return of both circulation and respiration for some hours, with no return of consciousness and ultimate death. If massage were performed within five minutes of the heart arrest there was a reasonable prospect of a favourable result if efficient lung aeration were maintained. Valuable time was often lost in necessarily futile injections of stimulants, while the methods of aspiration, simple or electric puncture, electricity, and combined pressure on the lower limbs and injections of Ringer's fluid with adrenalin had not so far proved successful measures in man. The patient in the case recorded was about to be operated upon for gastric trouble when the heart failed. Mr. Charles Stonham opened the abdomen and massaged the heart from below the diaphragm from three to four minutes after the failure. In response to stimulation, the heart beats returned and the patient completely recovered.

Dr. DUDLEY W. BUXTON congratulated Dr. Orr upon his paper and the able *résumé* he had given of the subject. Dr. Buxton alluded to the various physiological factors which produced heart failure under chloroform and the circumstances which, arising during anæsthesia for a surgical operation, would tend to increase the danger of its occurrence. He pointed out that circulatory failure, although often associated with respiratory difficulties which themselves were adjuvant towards causing heart standstill, was directly the result of chloroform dosage, and its degree varied directly as the strength of the vapour inhaled. He discriminated between the various conditions at work when cardiac failure arose, emphasising the importance of their recognition in order that appropriate treatment should be pursued. The abdominal route without incision into the diaphragm was, he believed, the best one for heart massage, and he contended that that measure should not be unduly delayed if the case were at all appropriate, as the surgical procedure involved did not increase the patient's risk seriously. He pointed out that other subsidiary measures were necessary, but deprecated the use of electrical stimulation of the heart.

Dr. E. H. STARLING mentioned a case of a weakly child, aged 11 months, who required the needling of a cataract. Chloroform was given from a Junker's inhaler and was taken well. When the child was under, the head was slightly raised to adjust the towels, when both the pulse and the breathing ceased. The head was lowered and artificial respiration performed, while ether and strychnine were administered hypodermically and a warm saline solution was injected into the rectum. Fingers were passed up under the ribs and the heart compressed five or six times, when a gasping inspiration was taken, and the heart was heard to beat again, after which gradual recovery took place. He thought it essential that artificial respiration should be continued for some time after the heart recommenced to beat.

MEDICAL SOCIETY OF LONDON.

Treatment of Trigeminal Neuralgia.

A MEETING of this society was held on Nov. 22nd, Dr. SAMUEL WEST being in the chair.

Mr. JONATHAN HUTCHINSON read a paper on the Operative Treatment of Epileptiform Trigeminal Neuralgia. He summarised his experience of 31 operations on the Gasserian ganglion for epileptiform neuralgia of the fifth nerve, with especial reference to objections that had been raised against surgical intervention in this disease. First, with regard to the risk or mortality of the operation, he held that it was unfair to quote the early statistics, which undoubtedly gave a high percentage, as being true at the present time. From about 20 per cent. of deaths (1896) the mortality had come down, in practical hands, to about 5 per cent. Of the 30 cases adduced not one had ended fatally; all had recovered. As to deformity resulting from the operation, he pointed out that this entirely depended on the method adopted. If a small flap was turned down from the scalp only, if only the necessary amount of bone was removed and the zygoma was not divided, practically no deformity ensued. It was, in fact, sometimes difficult to tell later by appearance on which side the operation had been done. As to the anæsthesia of skin and mucous membrane, this was generally of little consequence. The cranial anæsthesia was, however, more serious as the patient was left liable to ulceration from the unnoticed access of any septic dust. If the modification of the operation which Mr. Hutchinson had described was practised—namely, leaving the ophthalmic trunk intact—all danger to the eye was avoided. Out of the 30 cases this modification was carried out successfully in 26. In the other 4, in which the eye and forehead had

been left anæsthetic, some ocular complication had happened in all, but in only one had it proved serious. As regards the objection raised to the operation that it was not a radical or permanent cure, the evidence was steadily accumulating that in nearly all cases no return was to be feared. Mr. Hutchinson's first case dated 12 years ago, and even longer periods of cure had been observed. The operation did not prevent headache or neuralgia occurring on the opposite side of the head, and sometimes curious pains associated with circulatory trouble persisted or came on later. It was a matter of importance to avoid operation in patients obviously neurotic. Neurotic symptoms were as a rule absent in true epileptiform cases. In none of the 30 cases had there been any complication as regards sepsis or severe shock. In fact, recovery was rapid and uneventful. The average age of the patients was 52 years. The great difficulty of the operation arose from hæmorrhage, and in one case the recurrent bleeding from the distal end of the middle meningeal artery had necessitated a second operation, and the pressure of the blood-clot had led to some oculo-motor paralysis on that side.

Dr. WILFRED J. HARRIS read a paper on the Treatment of Trigeminal Neuralgia. He said that he would restrict his remarks on treatment, for the most part, to that form of neuralgia of the fifth cranial nerve which was characterised by the definiteness of the pain area, corresponding roughly to the anatomical distribution of one or more branches of the nerve. Further, all neuralgias were definitely excluded in which there was any detectable cause of irritation of the nerve, either central or peripheral. The pain, moreover, almost invariably came on in severe spasms, varying in duration from half a minute to half an hour, and there might be intermissions of many months, or even of years, in which the patient was completely free from pain. With that exception the pain continued year after year, until operation of some kind, or death, brought relief. No cause had yet been fully proved for that terrible disease, though various slight changes in the Gasserian ganglion and in the peripheral nerves had been at times described. The sexes appeared to be about equally affected. Thus, of 265 cases, 144 were men and 121 women. There seemed, however, to be a very definite predilection for the disease to attack the right side, for of those 265 cases 179 were on the right side and 80 on the left side, while 6 cases were bilateral. Thus the right side appeared to suffer more than twice as often as the left side. The character of the pain was sometimes exactly simulated by other forms of trifacial neuralgia, particularly dental neuralgia. True trigeminal neuralgia affecting the first or ophthalmic division of the nerve alone was much less common than of the second or third divisions, and, indeed, he had only met with one such case. Yet supra-orbital neuralgia was common enough as a reflex from errors of refraction and other similar causes, and it was especially severe as a post-influenzal neuritis. The diagnosis of the site of the cause of the pain was most important in estimating the probable results of any projected treatment, and it practically came to this: that if the pain was referred along one or more branches of the nerve, and there was no trace of any anæsthesia or analgesia or other signs of trophic impairment, such as muscular wasting or glossy skin, then the site of the cause of the pain was surely peripheral, and careful search must be made for any source of peripheral irritation, such as a carious tooth, an unerupted and impacted wisdom tooth, &c. During the last 12 months he had seen 29 cases of true trigeminal neuralgia or tic douloureux, 24 of which he had treated by injections of 80 per cent. alcohol. Of the remaining five cases, three refused treatment by injection; one, a case of bilateral neuralgia involving both second divisions of the fifth during the last 42 years was sufficiently relieved by butyl chloral hydrate and gelsemium as to render injection treatment unnecessary. The remaining case, a woman, aged 58 years, who had suffered only three months with neuralgia of the right third division, died suddenly from angina and cardiac infarction while butyl chloral was being tried. Of the 24 cases which he had treated by alcohol injection, 20 appeared to be so far completely successful as regards entire disappearance of the pain. Two of the remaining four cases were partial failures. If the needle were pushed in as far as 2¼ inches when searching for the foramen ovale it was likely to pierce the wall of the pharynx, and if any alcohol was then injected the patient would recognise it by the smell and by its burning sensation on the back of the tongue. This was of no consequence. It must be distinguished from the sensation of trickling along the lower jaw and tongue that the patient would notice when the foramen ovale was being successfully injected owing to the action of the alcohol upon the lingual and inferior dental portions of the nerve. Well-marked pruritus might be sometimes complained of in the area of nerve-distribution after a successful injection into the nerve trunk. Of his 29 cases of true trigeminal neuralgia, 9 were men and 20 women. 13 cases affected the third division only and 8 cases the second division only, while only 2 appeared to affect all three divisions of the nerve, and in two cases the first and second division and the second and third divisions were affected together, both requiring treatment. 18 of his cases were on the right side, 9 on the left, while in 2 cases the pain was bilateral.

Sir VICTOR HORSLEY said that he had removed the Gasserian ganglion in 149 cases in patients of varying ages. He found that the death-rate was 7 per cent., but that really only applied in patients over 50 years, for he had never lost a patient under the age of 50 years. In regard to the deaths, one was from accidental sepsis at University College Hospital, and the others were all cases due to the arterio-sclerosis from which these patients suffered. The operation was of course difficult, but this was not insurmountable. He considered that the so-called mortality and the so-called disadvantages of the operation were undoubtedly greatly exaggerated. He had employed the method of injecting alcohol with the view of avoiding the Gasserian operation. The cases in which the best results were obtained from alcohol injections were those which were strictly localised to one division of the nerve. Each case, however, must be dealt with on its own merits, but the general procedure was to recommend injection of alcohol first and afterwards, if necessary, resort to the removal of the Gasserian ganglion. He thought that the disadvantages of the removal of the ganglion were really more a matter of imagination than of clinical fact.

Mr. C. A. BALLANCE said that the dangers of the operation had been gradually getting less and less. He considered that it was the right thing where possible to inject alcohol before resorting to severer measures.

Dr. L. G. GUTHRIE pointed out that the severe condition of trigeminal neuralgia did not threaten life. He did not think it was desirable that operation should be performed on any young subject for trigeminal neuralgia.

Dr. T. GRAINGER STEWART said that those cases which would benefit by medicinal means would not accept operation. In those cases in which he had tried alcohol injection he had been very successful.

After Mr. HUTCHINSON and Dr. HARRIS had replied the meeting concluded.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

Empyema Thoracis.

A MEETING of this society was held on Nov. 11th, Dr. E. H. DAVIS being in the chair. The evening was devoted to a discussion on Empyema Thoracis.

Dr. JAMES DRUMMOND opened the discussion with a reference to the disease as seen by the general practitioner. He said that empyema could hardly be regarded as a separate specific disease, but rather as an accident or sequela, arising in the course of, or in consequence of, some other pre-existing morbid process. It was with this period, before empyema had declared itself, and while the case was under the observation of the general practitioner, that he had been asked to deal. Once empyema was established, the case was no longer a medical one, and he had no hesitation in saying that the sooner it was dealt with by the surgeon the better. He mentioned only a few of the principal diseases in the course of which empyema might occur. In his experience pneumonia had been the precursor in nearly all the cases of empyema the onset of which he had observed. It might occur in the course of specific fevers, such as enteric fever, scarlet fever, measles, and influenza, but he was not sure that in all such cases a mild

type of pneumonia might not have been present. In fact, in many of the cases referred to pneumonia was undoubtedly present as a complication, and the eventual development of empyema in some of them led him to think that probably some degree of pneumonia was present in all. Next in order of importance in the causation of empyema he placed septic conditions of the lungs and abdominal viscera. Septic infarct, gangrene, and bronchiectasis would naturally lead the medical attendant to look out for empyema as a sequela. In his own experience, before the days of immediate operation for appendicitis, he had seen empyema develop in at least two cases which had gone on to suppuration of the appendix. Tubercle in itself was not often followed by empyema, and, as Dr. T. Beattie had pointed out, when it did occur it was usually a result of some added infection. In quite a number of cases there was no history of a previous illness. The medical man was consulted because a child was not "thriving"; there might be no rise of temperature, no cough, and no dyspnœa or other prominent symptom beyond emaciation, but on examination of the chest dulness over one or both bases might be found, leading to the suspicion that fluid was present, and on aspiration pus might be detected. To illustrate the difficulty and uncertainty in the diagnosis of empyema he related a case as follows. He was called to attend a woman who complained of pain and swelling in her right side, accompanied by dyspnœa and cough. On examination he found all the symptoms of fluid in the chest at the base of the right lung. He introduced a needle in the fifth or sixth interspace in the axillary line and drew off a syringeful of pus. She was operated on for empyema next day, and a large quantity of pus was withdrawn. Part of a rib was resected and the cavity washed out and drained. After a few days it was discovered that numerous pieces of membrane, clearly the daughter cysts of a hydatid, were present on the dressing, showing that the case was one of suppurating hydatid and not true empyema. The pus had found its way behind the liver and diaphragm and burst into the pleural sac. The case did well after a counter-opening had been made through the abdominal wall and the cavity irrigated with weak iodine solution. He purposely avoided making more than the briefest reference to bacteriology in connexion with the causation of empyema, but in his opinion empyema was a question of bacteriology from beginning to end. Temperature observations, auscultation, and percussion were useful adjuncts to a correct diagnosis, but all of them were fallible. The nearest approach to infallibility was, in his experience, to be found in the prompt and frequent use of the aspirating syringe and microscope. As an early diagnosis in such cases was all-important, he urged the prompt and repeated use of the aspirating needle before the lung had become irretrievably collapsed by pressure, and both surfaces of the pleura had become permanently thickened. With ordinary care as regards sterilising the skin and instruments, he had never seen the slightest bad effect from the use of the needle. If there was not time to sterilise the skin of the patient by means of scrubbing and antiseptic dressings, the site of the puncture should be previously painted over with liniment of iodine. When pus was found in the chest the case should be handed over to the surgeon at once. For the development of empyema there must be some antecedent local or general disease, usually dependent on, or at least associated with, the presence of a microbe, and in the great majority of cases, if not in all, the offender was the pneumococcus. In the course of an attack of pneumonia presumably a certain amount of pleurisy took place, with some degree of effusion of serum or lymph. This fluid instead of being re-absorbed became infected with a specific organism, and the resulting collection of fluid was an empyema. The large majority of cases of pleurisy were due to the presence of tubercle; this condition, however, seldom ended in empyema, so that some other organism must be usually, if not always, the deciding factor in producing empyema.

Professor H. J. HUTCHENS dealt briefly with the bacteria found in the pus of empyemata, and pointed out that in many cases the organisms were well-known inhabitants of the alimentary canal. Dr. S. J. Gee had long ago drawn attention to the fact that in empyemata of children the mesenteric glands were caseous. Professor Hutchens mentioned that in the pus from an empyema recently examined in his laboratory an organism was found which appeared to be identical with the organism described by Dr. D. W. Carmalt-Jones,[1] which he had found in some cases of bronchial asthma.

Dr. DAVID DRUMMOND said that the primary cause of empyema was pneumonia. It was 22 years ago that he first thought the association of pneumonia and empyema was more than accidental. If the temperature rose after the crisis of pneumonia aspiration should be performed on the tenth day, and without an anæsthetic if the patient would allow this. The needle should be inserted where the dulness was greatest and the vocal fremitus (which never entirely disappeared) was least. For testing the vocal fremitus he always used the single stethoscope. All the signs of simple and purulent effusions were the same. If there was diminished dulness at the end of one week the case was not one of empyema. Tuberculous disease did not follow pneumonia.

Mr. A. E. MORISON made a communication on the Surgery of Empyema in Adults. He said that empyema was a more serious condition in adults than in children because it was more frequently complicated by tuberculous infection, by alcoholism, by organic diseases, especially those affecting the kidney, and by glycosuria. The treatment of both ought, in his opinion, to be surgical. It was a simple matter to evacuate the pus by the aspirator and recovery had followed a simple aspiration, but this result was so infrequent that no practical importance could be given to it. The greatest use of the aspirator (including the exploring syringe) was to discover the presence and the position of pus. As a rule the question whether the empyema was general or localised could be determined by ordinary physical signs, but this was not always possible. In localised empyema the aspirator was essential as a guide to operation. If the empyema was general a needle introduced at any part of the dullest area should find pus, but if it was local and small a prolonged search might be unsuccessful. As many of the localised empyemata occurred in the lung fissures and between the lobes the position of these fissures must be borne in mind. On both sides a line drawn from the spine of the second dorsal vertebra downwards and forwards to the junction of the sixth costal cartilage and rib marked the position of the sulcus which separated the upper from the lower lobe. All above and in front of this line was upper lobe, while all below and behind it was lower lobe. On the right side the position of the second fissure was marked by a line extending from the middle of the first to the junction of the fourth costal cartilage with the sternum. Many of the empyemata which emptied through a bronchus were situated between the lobes of the lung and were located with difficulty. When other attempts had failed a successful exploration could occasionally be made by imprisoning the pus. The patient was directed to empty his chest so far as possible by coughing before retiring to bed. A dose of morphia was then administered and further coughing was forbidden. The aspirator was tried in the morning when the cavity was full. Whilst operating on all varieties of localised empyemata it was essential to keep the aspirator needle in position till the pus had been found. When such an empyema had been discovered the proper treatment was to drain it through the most direct route. A second use of the aspirator was to tide over a temporary difficulty. In a case with urgent pressure symptoms or marked displacement of the heart, or complicated by acute bronchitis, aspiration previous to operation was generally a wise measure. The same principle held in cases of double empyema after draining one side. A third use to which the aspirator could be put was suggested by Murphy of Chicago and if his results were confirmed it would then assume the position of greatest importance. After emptying the chest he injected through the needle a glycerine-formalin solution, and his published results were very remarkable. Mr. Morison said that he had no personal knowledge of this treatment. In adults the danger of general anæsthesia was greater than it was in children because of the condition previously mentioned. Local anæsthesia by infiltration into the skin and muscles was safe and with few exceptions satisfactory if the directions as to the operation he described were followed. With local anæsthesia it was most convenient to allow the patient to sit astride a chair with his arms resting on the back of it. If a general anæsthetic was needed his preference was for chloroform till the patient was

[1] Brit. Med. Jour., Oct. 9th, pp. 1049-50.

insensible, then "open ether" till the finish. The anæsthesia should always be light. The patient should lie on the back and on no account should he be turned on to the sound side. The opening should be made in the axilla between the fifth and eighth ribs. With the patient drawn to the side of the table so that his diseased side projected over the edge Mr. Morison performed the following operation. First the aspirator was introduced, at the sixth interspace by choice, to verify the diagnosis and act as a guide. A vertical incision was made through the skin and soft parts from the intercostal space above to that below the one in which the opening was to be, passing on one side of the needle. A director was then passed along the needle into the pleura and so soon as pus showed in the groove of the director the needle was withdrawn. A closed pair of sinus forceps was next pushed along the groove on the director into the pleura and withdrawn open transversely to the axis of the intercostal space, making a large opening through which a drainage-tube as large as the space would allow was guided along the director into the pleura. It was neither necessary nor advantageous to have the tube longer than two inches; it was best of indiarubber; it should not be perforated where it passed through the chest wall and should always have a safety-pin fixed in its outer end before being introduced. Resection of a rib was sometimes necessary—more often in adults than in children, but quite rarely, he thought, in either, and only in those whose intercostal spaces were exceptionally narrow. Irrigation or other means of cleansing the pleura were not necessary even in fœtid empyemata. Many empyemata became chronic because of a superadded infection of the pleura. If the precautions now universally recognised as essential to wound treatment were perfectly carried out from beginning to end chronic empyema would be a rare event. The operation might be satisfactorily accomplished, but much depended upon every dressing, and these could scarcely be too frequently changed during the first 24 hours. It was at this stage that a secondary infection was apt to supervene. The essentials were that every one concerned in the case should have the "antiseptic conscience" and the means for carrying its promptings into effect. These were not obtainable except in a hospital. Even in tuberculous cases a good result might follow proper care. At the end of the fourth day the discharge from an empyema properly drained should be chiefly serous. At the beginning of the third week the tube should be taken out of the pleura, and during this week a director should be passed into the pleura daily to ensure that the outer opening did not close before the one in the pleura. At the end of the fourth week the wound should have healed. If it had not done so, and if there was still a free discharge of pus from the pleura, the case has passed out of the satisfactory stage into the uncertain and serious one of chronic empyema, and the sooner portions of one or many ribs were excised the better. It was well to remember that even after every rib had been excised it was still possible to have a persisting sinus.

Dr. J. S. MCCRACKEN dealt with medical points in connexion with empyemata in children and gave statistics from the Newcastle-on-Tyne Children's Hospital.

Mr. T. G. OUSTON spoke upon "Some Surgical Points in Connexion with Empyemata in Children." He said that he did not approve of local anæsthesia for opening empyemata in children owing to the certainty of the child struggling during the operation. Chloroform had given him every satisfaction, but it was not advisable to obtain full surgical anæsthesia; he was convinced that a minimum of anæsthetic was a very important factor. During its induction the patient should lie on the affected side, as a child's chest wall was so compressible that the purulent collection left only one lung available for respiration. The thorax was opened in the eighth interspace, or at any rate well below the angle of the scapula. It was the rule at the Newcastle-on-Tyne Children's Hospital always to resect a portion of rib, as the intercostal spaces in children were too narrow for adequate drainage. The subperiosteal method was always employed. In large and old-standing cases he thought that the periosteum should be removed as well owing to the rapid regeneration of bone. The pleura should be incised with a knife and not punctured with sinus forceps Where the lung was collapsed and its pleura much thickened the prognosis was not good. He had not tried decortication of the lung, but would do so in a suitable case, with an interval of weeks after the preliminary opening. In cases of non-expansion or only partial expansion of the lung a Wolff's bottle was used for older children and a penny trumpet for younger ones. At the Newcastle-on-Tyne Children's Hospital there had been 100 cases of empyema in seven recent years; of these 67 recovered, 5 were relieved or remained *in statu quo*, and 18 died.

Mr. JOHN CLAY mentioned the two dangers, early and late, of chloroform, and urged the use of ether as an anæsthetic. He said that the secondary danger, acetone poisoning, was formerly called septicæmia.

Sir THOMAS OLIVER said that his experience of fœtid empyemata was that they had done quite well. Many years ago his then house physician, Dr. C. M Goyder, elaborated a system of washing out the pleural cavity, but he found mere drainage far more successful. He thought that an atypical pneumonia was often due to the bacillus coli communis—a possibility which was not sufficiently recognised.

Dr. R. S. PEART remarked that no mention had been made of the dull line in the chest, the level of which altered with the position of the patient.

Mr. A. PARKIN said that he had seen two cases of empyema associated with malignant disease.

Dr. A. ANGUS MARTIN mentioned Mr. Rutherford Morison's method of previously making children intoxicated with alcohol so as to minimise the amount of chloroform used for anæsthesia.

Dr. BEATTIE said that he did not think there was any change of level of fluid, as the pleural cavity was like a closed bottle; if, however, the fluids present were of a different specific gravity (e.g., air and serum) the level would then alter with changes of posture.

Mr. G. G. TURNER said that Beck of Chicago had found that by injecting sinuses in various parts of the body with a paste made of 33 parts of bismuth and 67 parts of vaseline even very chronic sinuses could be readily got to heal, and by extending this process to the chest cases of very chronic empyema had been successfully treated. It was essential to use bismuth which was free from arsenic, as some few cases of untoward results had already been recorded.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Exhibition of Specimens.—History of the Teaching of Midwifery.

A MEETING of this section was held on Nov. 5th, Dr. H. JELLETT, the President of the section, being in the chair.

Dr. E. HASTINGS TWEEDY exhibited a specimen obtained from an ordinary Wertheim's operation in a woman about 24 years of age. There was very considerable ulcerative cancer spreading into the broad ligament. The operation went well until he began to remove the cervical part of the uterus. The cancer then broke away, but he was able to shut off the intestines and the woman did not become infected. An interesting feature in the case was that the ureter was not diseased, although the cancer spread above and below it. He pushed the bladder far down into the vagina, got his finger between the vagina and bladder, and was able to dig the ureter completely out of the cancer. That was three weeks ago. The patient had gone on very well until a week ago, when her temperature went up and a fœtid discharge arose. Though she could now hold a certain amount of urine in the bladder, still a quantity passed away, and he considered that he was now dealing with a ureteral fistula.—Sir CHARLES BALL (President of the Academy) said that he had once transplanted the ureter into the bladder, and as far as he knew no leakage occurred and no obvious kidney tumour developed.

Dr. R. D. PUREFOY exhibited a specimen of Pyosalpinx, which had reached a very considerable size in a short time, and had arisen under circumstances which made its origin difficult to account for. The patient had been married several years and was childless. She came under his care for a trifling catarrh of the uterus and recovered, as he believed. She was afterwards attacked with severe abdominal pains and tenderness, and it was then quite easy on palpation to find a tumour having its origin from some of

the pelvic organs. He waited for six weeks before operating. On opening the abdomen a rounded tumour came into view completely concealing the uterus, to which it was extensively adherent. In separating it, to his great distress the sac ruptured and a quantity of pus escaped, but the patient nevertheless made an uninterrupted recovery. There was no ground for thinking the condition to be due to gonorrhœal infection, neither was there any evidence of tuberculous disease, but he considered that the case was one of tuberculous salpingitis as the patient's family history was unfavourable.—Dr. TWEEDY said that when a tube burst and pus flowed into the pelvis it was largely a matter of chance if the patient would recover. If the pus was septic he knew of no way to avoid the giving of sepsis. If there was any doubt as to the nature of the pus it would, he thought, be safer to cut away the uterus and the tube at the other side; this would have provided a large hole for free drainage, that hole and the vagina being packed with a large quantity of iodoform gauze.—Mr. A. J. HORNE said that in a similar case he had recently adopted the practice recommended by Dr. Tweedy. The patient did very well up to the fifth day, when she complained of pain in the region of the heart, and rapidly sank in a few hours.—The PRESIDENT of the section said that in his opinion it was hardly possible to say positively that the case was tuberculous. He suggested that it originated as an extra-uterine pregnancy, and that a hæmatoma formed in it and suppurated.

The PRESIDENT of the section read an address on the Past and Present History of the Teaching of Midwifery.—Sir CHARLES BALL said the questions raised were of extreme importance. As a member of the General Medical Council he had a good deal to say on the whole question, and the chief difficulty experienced by the Council was that of proper hospital teaching. In Dublin they were singularly fortunate in that respect, but some of the provincial towns—and even London—were not so fortunately situated, and the principal opposition to the recommendations had come from the licensing bodies, who did not see their way to get such education for their students. Some persons thought that the recommendations should have gone further than they did; but some of them, it could not be doubted, would lead to better education. Those of the Council who were not gynæcologists and obstetricians were very strong on the point that students should be clinical clerks and surgical dressers before taking up practical midwifery, so that they might obtain a reasonable amount of teaching in the practice of antiseptics. The General Medical Council could only make suggestions; but their experience was that while some of the recommendations were unpopular at first they were usually carried out. It had never been necessary for the Council to exercise its power to report the non-adoption of recommendations to the Privy Council, an action which might lead to the degrees of the particular body not being registered. He believed that the recommendations would in time be carried out and strengthened, but they had to move slowly.—Dr. F. W. KIDD said that he agreed with Dr. Jellett that a period of six months was one which allowed the student to obtain the necessary knowledge with greater ease than if it was reduced to three months. He thought an alternative might be made with regard to the period spent as an intern in attending a lying-in hospital. A man living inside the walls of a maternity institution saw everything that was going on; he lived in an obstetric atmosphere. If attending as an extern student two nights in the week, whether he saw a case or not, it was difficult for him to devote his attention to lectures next morning. He thought that too little attention was paid to the taking of ample notes of cases either in the house or extern, and it should be the duty of assistant masters or clinical clerks to see that notes were taken and signed by the officer of the institution before credit was allowed for the case. When the question of the clinical examination had first come under his observation he had hesitated as to the feasibility of its being made practical or practicable; but experience had shown him that the difficulties which he had conjured up were to a great extent imaginary. A practical test was quite feasible as regards palpation and the general conditions in the puerperium, and questions could be asked to supplement the history that the student gave.—Dr. TWEEDY said that in his opinion it was a hardship on the student to cut down the course of instruction to three months. But there was one safeguard in the rules that had lately come into force—namely, the rule that a student had to attend 32 times within three months. That rule made it impossible for a maternity hospital to give a three months' course on a one month's residence.—Dr. M. J. GIBSON expressed the view that the period instead of being reduced should be raised to 12 months. But if a man lived in a hospital for one or two months, he would learn far more than from attending twice a week for half a year, and should be spared further attendance.—Dr. Jellett, in reply, said that for the qualified man one month inside a hospital was better than three months outside, but he doubted whether the average student could in the time allowed assimilate what he saw, as he could if the instruction was spread over a longer interval. He was therefore more inclined to agree that the time should be extended to a year. Everyone recognised the practical examination as a great step forward, and the marking should in an entirely new departure be lenient at first.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held in the University on Nov. 11th, Dr. George Wilkinson, the President, being in the chair.—Dr. A. E. Barnes, Dr. Arthur J. Hall, and Dr. H. Leader showed specimens from cases of Hæmorrhage into the Suprarenals. All were bilateral. Dr. Barnes's case showed during life symptoms of intestinal and gastric disturbance. In the stomach there was absence of free hydrochloric acid, but a small amount of lactic acid was present. Connective tissue and undigested muscle fibre were seen in the fæces, as well as a slight excess of fats and soaps. The urine contained an excess of glycuronic acid; it also showed a very marked indican reaction, urobilin, and Cammidge's pancreatic reaction. Post mortem there were found atrophy of the gastric mucosa, catarrhal changes in the pancreas, and nodules of lymphomatous tissue in the liver, where the capillaries also contained many lymphocytes. Dr. Hall's case showed during life symptoms of enteric fever, but there was no serum reaction. Dr. Leader's case was a child six days old. Streptococci were found in the kidneys.—Dr. Barnes also showed two large Dissecting Aneurysms of the Thoracic Aorta, which during life had caused acute abdominal symptoms.—The President showed a child with separation of the lateral cartilages of the nose and nasal spines; there was also a slight notch in the centre of the upper lip and between the two halves of the premaxilla.—Dr. Hall and Mr. A. Garrick Wilson showed a man who had had a large hard mass in the abdomen which could be easily palpated and for which a laparotomy was performed. It was thought to be carcinoma of the stomach wall, and as a gastrectomy was impossible, owing to firm adhesions and the presence of numerous enlarged glands in the gastro-hepatic omentum, a posterior gastro-enterostomy was performed. In the course of a few weeks the tumour (which turned out to be inflammatory in nature) entirely disappeared, and the patient's weight increased from 7½ stones to 10 stones 9 pounds.—Dr. A. E. Naish and Mr. Wilson showed a case of cervical rib in a girl. The symptoms were pain in the right shoulder after a long swim and weakness in the right hand and arm. The diagnosis was confirmed by an X ray photograph which also showed a very small cervical rib on the left side. The rib was removed by operation and with the assistance of massage and the constant current the muscles of the hand and arm gradually regained their normal strength.—Other cases and specimens were shown by Mr. W. S. Kerr and Mr. Graham S. Simpson.—Professor Ralph P. Williams read a paper on Open-air Recovery Schools. He reviewed the history of the movement which was first established in Charlottenburg, near Berlin, in 1904, in consequence of an investigation carried out by Dr. Neufert and Dr. Bendix, who showed that of all the children attending elementary schools 7 per cent. were dull and backward, and in half of these their mental condition was due to physical causes such as anæmia, the early stage of pulmonary tuberculosis, bad nutrition, &c. This school, established in the forest, was so successful that the original period of three summer months was extended in the following year to a period from April 1st to Christmas. The Charlottenburg authorities were also about to open a "Forest School" for High School children next year. The parents will pay 80 per cent. and the State will pay 20 per cent. of the expenses. Mülhausen in Elsass, Gladbach, Elberfeld, London,

Halifax, Norwich, Bradford, and Sheffield have now established open-air recovery schools. Professor Williams then described the medical and educational arrangements in the Sheffield school. He said that with regard to the selection of children, 50 children suffering from the following physical defects were provided for: Pulmonary tuberculosis, 3; tuberculous glands, 2; anæmia and bad nutrition, 20; oral sepsis, 13; convalescence from acute disease, 2; convalescence after operations, 2; and doubtful cases of pulmonary tuberculosis, 8. The teeth of all the children were examined by Mr. Frank Harrison and the worst cases were operated on. All lessons were taken in the open air except in severe weather, when an old and well-ventilated school building was available. Three good meals were provided and were taken in an open shed facing south. One warm shower bath was provided for each child once a week. The educational work was limited to three and three-quarter hours daily. Each child was provided with a numbered rain cloak, a chair, a blanket, a brush and comb, a tooth-brush, a towel, and a bath towel. Two hours were allowed for rest after the midday meal (90 per cent. of the children slept all the time). The children were weighed every fortnight and the 29 girls and 21 boys increased on an average 2·6 kilogrammes (5¾ pounds) during the period the school was open—i.e., from June 21st to Oct. 29th, compared with an average of 1·1 kilogramme increase put on by children of the same age attending ordinary elementary schools. The parents contributed towards the expense of feeding the children sums varying from 2*s.* 6*d.* to 6*d.* a week. He hoped that schools of this type would be erected in country districts surrounding all cities, for the recovery and education of ill-nourished children who otherwise would become a burden on their relatives or on the State.

HUNTERIAN SOCIETY.—A meeting of this society was held on Nov. 10th, Mr. T. H. Openshaw, the President, being in the chair.—In the theatre of the London Institution Dr. Alfred C. Jordan gave a lecture on Roentgen Ray Diagnosis for the Physician. The lecture was illustrated by over 80 lantern slides of cases examined by Dr. Jordan. Time being limited, he was obliged to confine himself to diseases of the chest and alimentary canal. Commencing with the heart, the predominant shape of the cardiac shadow in the several varieties of valvular disease was illustrated and explained. Mitral stenosis showed the greatest constancy of form, while that of aortic stenosis was also fairly well defined. In Stokes-Adams disease it was usually easy to count the beats of the auricles and ventricles separately. Pericardial effusion was next dealt with, and the chief points in its diagnosis from a dilated heart were explained. Coming to the aortic arch, it was shown that while there was no difficulty in diagnosing a large saccular aneurysm from an anterior view, in less extreme cases it was always necessary to examine the right anterior oblique view as well, the latter giving a view in the actual plane of the aortic arch. The appearance of the aortic arch in the oblique view, when normal, generally dilated, fusiform, and saccular, was explained by means of diagrams, and a number of illustrative slides were shown. Aneurysm of the innominate artery and descending thoracic aorta was also illustrated. Coming to the lungs, the lecturer dealt first with phthisis, of which disease he had examined close upon a thousand cases during the last three years. He showed that every case with definite physical signs could be detected with certainty by an X ray examination, and the exact extent and distribution of the disease ascertained. Many cases with no physical signs could be similarly detected. The various points of importance in the diagnosis were explained, and the appearance of apical and fibroid phthisis, cavities, bronchitis, emphysema, bronchiectasis, fibrosis, and pneumonia were shown. Fluid effusions in the pleura were next considered, the form when small, moderate, and large being illustrated. The appearance produced by fluid and air in the pleura was shown and contrasted with that of simple effusion. Abscess and hydatid cysts of the lung were shown, and finally the effect produced by new growth in the chest. In examining the gastro-intestinal tract from 2 to 4 ounces of carbonate of bismuth might be given without hesitation, in emulsion with sugar of milk and water, or mixed with cornflour or bread and milk. In Germany several patients in whom the subnitrate was used had died owing to liberation of nitrous acid by bacterial action in the bowel. The appearance of strictures of the œsophagus was shown, and the lecturer explained how the bismuth emulsion remained lodged in the dilated portion above the stricture, and a thin stream trickled through and entered the stomach. Œsophageal pouches were also shown; in these cases the bismuth emulsion was seen (during the fluorescent screen examination) to pass through the œsophagus in a full stream and to enter the stomach, but a portion remained lodged in the pouch at the upper end. Referring to the stomach, it was shown that the shape of the normal stomach as revealed by a bismuth meal, was not constant, but depended upon the other abdominal viscera which pressed closely upon it, and the amount and weight of the gastric contents. The appearance of the normal antrum pylori in the presence of peristaltic action was explained by means of a diagram, and tracings and photographs were shown illustrating pyloric carcinoma, hour-glass constriction due to new growth, and other conditions. The course of the bismuth meal through the intestines was then followed, and instances of obstruction in the ileum and sigmoid, and dropping of the hepatic flexure and transverse colon were shown upon the screen. The splenic flexure never dropped, being held up by the costo-colic ligament. If a patient with a dropped transverse colon were asked to contract the abdominal muscles the transverse colon was seen to rise to its normal level in some cases. In these cases exercises, massage, &c., might be of benefit by strengthening the abdominal muscles and increasing their tone. When no rise of the colon (and stomach, which was usually dropped also) was produced by the patient "drawing in the stomach" manual pressure with the flat hand upon the abdomen below the umbilicus often caused the stomach and colon to rise to their normal levels; in such cases a well-fitting belt might be of benefit. Lastly, a case of congenital dilatation of the colon in a baby was shown. The greatly dilated colon was full of gas and showed as a clear, wide band against the rest of the abdomen, which was darker.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on Nov. 10th, Dr. W. E. Fothergill, the President, being in the chair.—Dr. George R. Murray and Professor J. Lorrain Smith gave an account of a case of Acute Disseminated Cerebro-spinal Myelitis (Encephalo-myelitis). The patient, who was a woman, aged 18 years, complained of failure of vision in the right eye, which became blind in four days. Vision then failed in the left eye, so that she was blind in a week. Then followed loss of power of the left side of the face and of the right arm and leg. On the eleventh day she became deaf. On admission to the Manchester Royal Infirmary she was blind and deaf; her pupils were dilated; there was only slight reaction to light on the right side, the fundus was normal; paresis of the left side of the face and of the right arm and leg was present; the knee-jerks were exaggerated, especially on the right side; ankle clonus and Babinski reflex were present on both sides, but more marked on the right; there was apparently no anæsthesia. By lumbar puncture fluid was obtained in excess, but it was normal in character. The temperature was generally subnormal. The patient subsequently lost control of the sphincters and died from respiratory failure a month after the onset of the symptoms. Sections of the spinal cord and brain, stained by Weigert's myelin method, showed irregular areas of myelitis. In the cord in the cervical region the anterior and lateral columns and in the lumbar region the lateral and posterior columns were chiefly affected. The fibres had to a large extent disappeared, and in the more recently affected areas large numbers of compound granular corpuscles were found scattered through the tissue and crowding the spaces of the perivascular sheath. The vessels were engorged but the walls were not thickened and there were no definite signs of thrombosis. An examination for microbes by Gram's method gave negative results. In the optic chiasma and in both auditory nerves recent myelitis was found, and in both cases the fibres had completely disappeared. There was an increase in the neuroglia cells in these areas. Sections from the white matter of the occipital lobe were also shown to demonstrate a myelitic focus. The changes in the brain were not so advanced as those in the cord and in the optic chiasma. In the brain the areas affected were visible to the naked eye as small rounded patches of congestion without definite softening.—Professor G. Elliot Smith, in a communication entitled "Disease in Ancient Egypt," gave an account of some of the pathological conditions which he had met with in examining the bodies of

ancient Egyptians. Reference was made to the extreme rarity of tuberculous disease, only 5 cases having been found among more than 10,000 skeletons examined; 4 were cases of spinal caries and 1 of hip disease; the earliest was dated about 3500 B.C. No evidence whatsoever of syphilis has yet been found. Osteo-arthritis was extremely common, but only one case of true gout had been observed and that was a Christian immigrant into Egypt. Dental caries was exceedingly rare among the prehistoric Egyptians, but was quite common among the aristocratic classes in historic times. Cases of mastoid disease (12 in number) were seen, in all of which the pus found a natural outlet in Macewan's triangle. A variety of other conditions, including osteo-sarcoma (3000 B.C.), calculi of the bladder, of the kidney, and of the gall-bladder, talipes, and prolapse of the uterus and rectum, were referred to.—Dr. E. N. Cunliffe described the clinical history and pathological appearances met with in a case of Anæmia with Enlargement of the Spleen occurring in a girl, aged 13 years, and presenting the features, not of splenic anæmia of adults, as is customary at this age, but of splenic anæmia of infancy. A marked feature of the blood picture was the enormous number of nucleated red cells, chiefly of the normoblast type, with a certain proportion of megaloblasts. There were no signs of infantilism such as has been recorded by Cowan in two cases of a similar nature.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on Nov. 11th, Mr. T. H. Bickerton being in the chair.—The following specimens were shown:—Mr. W. Thelwall Thomas and Dr. W. W. Mackarell: (1) Epithelial Odontome; (2) Exophthalmic Goitre; and (3) Three Epitheliomata from One Lip.—Dr. E. Stevenson and Dr. R. E. Harcourt: (1) Melanotic Sarcoma of the Eye (two cases); and (2) Pseudo-glioma of the Eye.—Mr. Charles G. Lee and Dr. Harcourt: (1) Melanotic Sarcoma; and (2) Glioma of the Retina.—Dr. Gordon Gullan: Hour-glass Contraction of the Stomach.—Mr. R. E. Kelly and Dr. Mackarell: Skull and Brain from a case of Pneumococcal Meningitis.—Dr. Ernest E. Glynn: Phagocytosis of Pneumococcus in Cerebro-spinal Fluid.—Mr. Thomas Guthrie: (1) Naso-pharyngeal Fibroma; and (2) Tracheal Tuberculosis.—Dr. Nathan Raw: (1) Malignant Streptococcal Endocarditis; (2) Primary Carcinoma of Adrenals; (3) Congenital Cystic Kidneys from a man, aged 44 years; and (4) Tuberculous Appendix.—Dr. J. Lloyd Roberts: Thoracic Aneurysm with Rupture into the Superior Vena Cava.—The specimens were discussed by Dr. T. R. Bradshaw, Dr. N. P. Marsh, Dr. J. Murray Bligh, Dr. J. Hay, Dr. Glynn, Dr. J. H. Abram, and Dr. Harcourt.—Dr. R. J. M. Buchanan read a short paper on Observations on Cytological Methods. He held that as in the body as a whole somatic or systemic death took place the same term is applicable to the death of the cell as a whole, and that systemic cell death takes place prior to disintegration. Recognising the occurrence of death of the individual in instantaneous rigor or cadaveric spasm, he held that cells could die in instantaneous rigor, that this condition is produced and preserved permanently by the most approved methods of instantaneously fixing tissues during life, and that by this means cells could be fixed during any phase of their existence and the appearances coincident with their latest activities permanently recorded. He drew distinctions between cells which were allowed to die slowly prior to fixation. He pointed out the possible fallacies which might arise by the examination of cells *in vitro* being regarded as equivalent to examination *in vivo*, and pointed out the danger of the tendency to regard these terms as synonymous in experimental methods. The paper was illustrated by microscopical specimens showing cells fixed and preserved in instantaneous rigor.—The paper was discussed by Dr. G. C. E. Simpson, Dr. Harcourt, Dr. Glynn, and Dr. Abram, and Dr. Buchanan replied.

EDINBURGH OBSTETRICAL SOCIETY.—A meeting of this society was held on Nov. 10th, Professor William Stephenson (Aberdeen), the President, being in the chair.—The President read his valedictory address and gave an account of the lives of some of the honorary and other Fellows who had passed away during his occupancy of the chair, including Dr. C. J. Cullingworth, Dr. C. E. Underhill, and Dr. P. A. Young.—Dr. H. M. Church read a paper on Rheumatoid Arthritis, claiming a puerperal cause for most cases. He gave a clinical record of two cases which he had studied for 12 years. In one the disease came on after a confinement at the full time, in the other after a miscarriage at the second month. In both the system had been weakened by influenza and shock, which predisposed to a microbic invasion from the genital tract. He pointed out the relation that exists between rheumatoid arthritis and other chronic spinal arthropathies, and conducted his inquiries on the lines recently initiated by the Cambridge Committee appointed for the study of special diseases. Gout, osteomalacia, and rheumatoid arthritis were compared. In regard to treatment, iron taken internally and cataphoresis with iodide of potassium did good. In rheumatoid arthritis a generous diet with butcher's meat was essential and whatever treatment enriched the corpuscular elements of the blood. The retention of phosphorus in the system and therefrom the production of greater hardening of the bones after removal of the ovaries, as shown from experiments upon animals, opened up far-reaching questions. As regards post-mortem appearances, he referred to a case in which 18 months after the onset of rheumatoid arthritis, following a miscarriage, there was found sclerosis of the posterior columns of the cord in the dorsal and of the columns of Goll in the cervical region. The paper was preceded by the exhibition of a metal penholder eaten through by the sweat from the finger of one of Dr. Church's rheumatoid cases, and he thought that the presence of a hypothetic acid, which the American physicians, Dr. Herder and Dr. Baldwin, believe to be pathogenic of the disease (found in the urine in every acute case) might be a factor in the erosion of the metal.—The following office-bearers were elected for the ensuing session:—President: Dr. F. W. N. Haultain. Vice-Presidents (Senior): Dr. A. H. Freeland Barbour and (Junior) Dr. J. Lamond Lackie. Treasurer: Dr. W. Craig. Secretaries: Dr. Angus Macdonald and Dr. B. P. Watson. Librarian: Dr. Lamond Lackie. Editor of Transactions: Dr. W. Macrae Taylor. Members of Council: Dr. J. W. Ballantyne, Dr. W. H. Miller, Dr. A. M. Easterbrook, Dr. W. E. Frost, Professor W. Stephenson (Aberdeen), Dr. G. F. Barbour Simpson, Dr. Frederick Porter, and Dr. F. D. Simpson.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 4th, when Sir Malcolm Morris delivered an address entitled "Certain Important Methods of Treatment about which there is considerable Doubt." He selected the following three points for discussion—vaccines in the treatment of skin diseases, the use and abuse of X rays, and the practical use of radium. As a type of skin disease for which vaccines might be used he mentioned simple local infections of the skin by streptococci or staphylococci, such as sycosis, impetigo contagiosa, acne, boils, and carbuncles. Acne depended on many factors—the anatomical, the coarse rough skin with large sebaceous glands; the physiological, the disease starting at puberty, when many changes take place in the body; the pathological, the altered skin, with reflex disturbance of digestion. Now, he asked, are all other factors except the vaccine to be omitted? No, most certainly all knowledge, past and present, is not to be thrown away. If pustulation is present in a limited area no vaccine should be used. It is only in those cases in which ordinary commonsense treatment fails or is impossible on account of the extent or depth of the lesion, that vaccine from the pus of the patient's own lesions is undoubtedly of value; and the same applied to the various other coccal infections to which he had referred. With regard to X ray treatment of skin diseases there was at the present moment a wave of reaction following on the "boom." But the proper level of its value would soon be found. In chronic ringworm of the scalp this treatment meant a cure with absolute mathematical certainty within three months. There was not the slightest shadow of risk with a skilled operator. No single case of injury to the brain has been brought forward and the risk of permanent baldness was so small that it could be ignored. The success of the treatment resulted in an enormous saving in money and time. There were medical officers scattered about who had set their face against it, but they were absolutely wrong in denying the public this enormous advantage. Sir Malcolm Morris also recommended the X rays for old-standing thickened patches of psoriasis, eczema, lichen planus hypertrophicus, pruritus ani, excessive hyperidrosis, chronic sycosis, and breaking-down rodent ulcer or epithelioma. As regards

radium, one broad general rule must be remembered, he said, the action of radium was totally different on skin and on mucous membrane. There was no danger with radium on the outside surface. It produced three effects—a superficial action, a deep action, and a selective action. It was to be used for (*a*) superficial inflammatory conditions of the skin which defied all known treatment; (*b*) for port wine nævi; and (*c*) inoperable epithelioma. Its action on mucous membrane was very different; he did not advise it for advanced cancer of the mouth or tongue, but he would use it if the cancer was quite small and there was no general infection.

CLINICAL SOCIETY OF BATH.—A meeting of this society was held on Nov. 5th, Dr. J. Wigmore being in the chair.—Dr. Rupert Waterhouse showed a case of Rheumatoid Arthritis in a child, aged three years, in whom great benefit had resulted from the administration of large doses (up to three drachms daily) of the syrup of iodide of iron.—Mr. Forbes Fraser showed: (1) a girl, aged 11 years, in the early stage of Macrocheilia and Macroglossia; and (2) microscopical sections from a Sebaceous Adenoma manifesting early malignant degeneration.—Mr. T. McPherson showed a boy, aged 10 years, with a Tumour of the Chest Wall of doubtful nature.—Dr. J. Leckie showed a boy who had four months previously been run over by a bicycle and rendered unconscious for some hours. Recovery took place, but he had returned to hospital with headache and double optic neuritis.—Dr. James Lindsay showed a woman, aged 36 years, with Chronic Disease of the Joints which had started in the great toe-joint at the age of 14 years; the teeth were much ground down and there was persistent albuminuria with granular casts.—Other cases and specimens were shown by Dr. Preston King, Mr. H. G. Terry, and Mr. F. Lace.—Dr. G. H.-H. Almond read a paper on Polycythæmia, which he divided into relative and absolute, subdividing the latter into (1) erythrocytosis, and (2) erythræmia. He said that polycythæmia resulted from deficient aeration due to chronic lung disease and congenital heart disease. Notes were read describing the case of a youth, aged 19 years, whose blood count showed red cells varying from 9,400,000 to 11,900,000 per cubic millimetre; the amount of hæmoglobin was 145 per cent. and the spleen was enlarged. There was marked clubbing of the fingers, and other symptoms and signs of venous stasis had been present since birth. There was increased dulness to the right of the sternum, and Dr. Almond thought the case was probably one of erythrocytosis due to congenital heart disease.—Dr. J. M. H. Munro read a paper on Various Points in Vaccine Therapy, suggesting from cases observed that pustular acne of the face in young women, without blackheads, the back and chest being clear, might be connected with staphylococcal infection of the blood from accompanying cervical endometritis. He reported a case of so-called carbuncle of the nose due to micrococcus catarrhalis successfully treated by two inoculations of auto-vaccine, and drew attention to the value of tuberculin in certain cases of malignant endocarditis and in persistent chronic nasal catarrh, one case being greatly improved after seven years' previous treatment, including removal of the turbinated bones and draining the frontal and sphenoidal sinuses and maxillary antra ineffectually.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 17th.—Dr. C. H. Cattle showed a case of Aphasia with Monoplegic Chorioid Movement.—Dr. A. Fulton, the President, then delivered a presidential address on Medical Ethics. He pointed out that the modern tendency of the Government to create numerous State and municipal medical appointments was becoming dangerous to the profession as a whole, as in many cases the remuneration was quite inadequate and these appointments unduly encroached on the work of the general practitioner. To guard against these dangers we should be united as a whole and first heal our own differences. He then described those "petty jealousies" arising between general practitioners themselves, between general practitioners and members of a hospital staff, and finally between general practitioners and the numerous types of consultants which have lately arisen; at the same time he pointed out the proper etiquette to be observed in each case, believing that if only the members of the profession would get to know each other better these differences would soon disappear.—An interesting discussion followed.

Reviews and Notices of Books.

Text-book of Embryology. By FREDERICK R. BAILEY, A.M., M.D., Adjunct Professor of Histology and Embryology; and ADAM M. MILLER, A.M., Instructor in Histology and Embryology, College of Physicians and Surgeons (Medical Department of Columbia University). With 515 figures. London: J. and A. Churchill. 1909. Pp. 672. Price 21*s.* net.

IT is a fact that many valuable modern text-books are the work, not of mature senior men who could utilise a life-time of first-hand observation for the enterprise, but of comparatively young men in the first flush of their professional life. The explanation in a subject like embryology is not far to seek. The subject has broadened out so rapidly, and its literature has become so immense in recent years, that it is practically impossible for any individual to possess a first-hand knowledge of all its departments. Enthusiasm, industry, and the assured, unhesitating judgment of youth are needed to systematise in a dogmatic form some of the many-sided and ill-understood facts of modern embryology. The young authors of the work under review, taking their courage in their hands, have produced what may truthfully be described as the best text-book of embryology in the English language. It is not stamped with the mark of individual authority like the well-known work of Professor Minot of Harvard, but, on the other hand, it is a most judicious and well-balanced representation of the facts and opinions relating to the development of the body. The authors have shown great judgment in their selection of authorities and of illustrations, and have carried their account up to the most recent researches.

Owing to the predominating influence of Professor Minot of Harvard, and more especially of Professor Mall of Johns Hopkins University, embryology has flourished in the Universities and medical schools of the United States. The methods used in the laboratories and the courses given in the lecture room are copied from Germany. In the preparation of this work the authors have followed closely the German tradition. The first chapter deals with the cell; then follow sections dealing with the genital cells, their maturation, fertilisation, and the production of the embryo. The succeeding chapters treat of the origin and growth of the separate organs and parts. It is a mechanical embryology that is here unfolded, one in which buds grow out, septa spring up, lamina fold over and unite, with seldom a question as to the functional meaning or significance of the phenomena so minutely described. As is the German method, embryology here consists of a detailed catalogue of bare facts unrelieved by the light that can be obtained from the study of comparative anatomy and physiology, and scarcely yet affected by the brighter light which experiment is destined to shed on the phenomena of development. The long chapter dealing with the nervous system, where the authors have mainly relied on the researches of His, Elliot Smith, and Streeter, is an exception to this statement, and in that chapter they have greatly added to the value of their description by interpreting facts of development in the light of the facts of cerebral evolution.

Several new features distinguish this text-book. One is a list of "practical suggestions" at the end of each chapter, suggestions as to the manner in which the facts of each chapter may be verified by the student. A list of the most recent papers is given in each section. The differentiation of the various tissues is also dealt with more fully than is usual. On the other hand, although the various malformations of the body are mentioned with the normal development of each system of organs, it is clear that neither of the authors

has first-hand knowledge of these lesions. An appendix giving a clear and reliable account of the technique employed by embryologists is a most valuable feature.

When we examine the size and compass of this work—and it contains only the essentials of the subject—the opinion is forced upon us that embryology, at present a foster-child of medicine, will soon find itself in the position of other sciences that have grown up as foster-children of medicine—botany, zoology, and chemistry—too big to find room enough for development. To work through the "practical suggestions" of this work would take a medical student at least 12 months of constant labour.

The Mediæval Hospitals of England. By ROTHA MARY CLAY. London: Methuen and Co. Pp. 357. Price 7*s.* 6*d.* net.

THIS volume is one of the excellent series known as the Antiquary's Books, published by Messrs. Methuen, and it is worthy in every way of its predecessors. We are quite in accordance with the remark of the Bishop of Bristol, who has written the preface to the book, when he says, "As a book of reference for readers and writers, this treatise on the mediæval hospitals of England ought to hold a distinguished place."

The word "hospital" has come to mean in these later days a place practically entirely devoted to the care and treatment of the sick in body. But in early and mediæval times a hospital was, in accordance with its name, a guest house for wayfarers, pilgrims, the poor, the sick, and the infirm. In Oxford were two hospitals which had been founded for the care of the sick as well as for poor and infirm persons. One was the Hospital of St. Bartholomew, founded by Henry I., and the other that of St. John Baptist, founded possibly by King John, but more likely by Henry III. in 1233. The foundation charter is dated 1231. St. Bartholomew's was for "leprous folk," but St. John's was founded that therein "infirm people and strangers might receive remedy of their health and necessity." But the statutes of the hospital lay down very clearly that certain classes of sick folk were not to be admitted. The officer to whom was given the care of the infirmary was the sacrist. He was obviously a priest, for the statutes say that he shall hear the confession of patients before their admission. But he is forbidden to admit the following: "Si fuerint adulti: non admittant (*sic*) leprosos, paraliticos, ydropicos, furiosos, morbo caduco laborantes, fistulas aut morbos incurabiles patientes nec mulieres lacrimas (*sic*, but possibly a mistake for 'lascivas') praegnantes nec juvenculas." These rules, it will be seen, excluded a large number of diseases, for the lepers probably included many chronic skin diseases, and possibly syphilis. The paralytics would include a variety of spinal diseases and the hydropics many cases of morbus cordis, of nephritis, of hepatic disease, and very likely solid or cystic abdominal tumours. Cases of epilepsy, fistula, and chronic incurable disorders were also ruled out. The statutes go on to say that such cases were rather to receive an adequate portion of outdoor relief, until such time as they were well. The first patient of whom there is any definite record as admitted to the hospital of St. Bartholomew in London was a carpenter named Alfunyne or Adwyne of Dunwich. He suffered from a general contraction of his limbs, and having heard of various cures wrought at the church and hospital, he came up by sea and was put "in the hospitall of pore men." Here he gradually recovered, power returning first to his hands so that he was able to make "smale workys such as dystaffes" until he became so well that later on he was able to do heavy work, such as hewing wood and squaring timber, together with carpentry work for the church. It will be seen that there is here no definite mention of any surgical or medical treatment.

Miss Clay treats of the various hospitals according to the purpose for which they were founded, as far as possible, for naturally the work of many hospitals overlapped. Thus her first three chapters deal with hospitals for the wayfarer and the sick, for the feeble and destitute, and for the insane. Lazar houses and lepers are dealt with in the next two chapters, and the remaining chapters discuss founders and benefactors, hospital inmates, buildings, management and constitution, their relations to Church and State, and their decline. Finally comes a chapter about the dissolution of religious houses and its effect upon hospitals. The decline of hospitals was due to various causes. Incompetent and dishonest wardens played their part in mediæval times just as they did after the Dissolution or in hospitals founded in post-Reformation times, while as regards leper hospitals, even as early as 1321 a report got about that the lepers had in England, even as their brethren in transmarine parts, "poisoned the fountains of sweet gliding streams" so that "they were utterly hated and their hospitals were for the most part brought to great decay."

Certain hospitals which had fallen from their first estate were merged in other institutions. Thus the Hospital of St. John Baptist above referred to had in the time of William of Waynflete (circa 1456) fallen so low that "it consisted only of a master and four brethren." Its property was ill-managed, its revenues were not spent in relief of the poor, and its rules and statutes were not observed.[1] Its lands and property were therefore annexed to Waynflete's new foundation of Magdalen College, the master and brethren receiving due compensation. Between 1481–5 the hospitals of Romney, Aynho, and Brackley were also annexed to Magdalen College. At the Dissolution, although the Commons proposed that those who entered into the possession of the lands of religious houses should provide for the poor as of old, it only too often happened that as Roderyk Mors remarked in his Complaint, "Your pretense of putting down abbeys was to amend that was amisse in them. ..... It is amended euen as the deuell amended his dame's legge (as it is in the prouerbe) whan he shulde have set it ryght, he bracke it quyte in peces." The second portion of Miss Clay's book gives an account of hospital patron saints and contains two most valuable appendices, the one being a translation of the office for the exclusion of a leper and the other a tabulated list of hospitals.

We have read the book with extreme interest and can only add our congratulations to those of the Bishop of Bristol upon a careful and excellent piece of work. The value of the book is greatly increased by the illustrations of hospital buildings, seals, and the like.

Probleme der Tuberkulosefrage. Von Dr. JULIUS BARTEL, Privat-dozent und Assistent am pathologisch-anatomischen Universitätsinstitut in Wien. Leipzig und Wien: Franz Deuticke. 1909. Pp. 147. Price M.3.50.

THIS small but important volume is an account of the bearings and significance of the researches on the problem of tuberculosis, which has been carried out during the last few years in Weichselbaum's Institute in Vienna, where Dr. Bartel is principal assistant. The papers on the subject reach a high standard of excellence and deal with certain aspects of tuberculosis which have been too much neglected by the extremists of the contagionist school. The main problems set by Weichselbaum are the relationships of the tuberculosis virus to the organs and tissues of the body, the early changes following the entry of the virus, and the anatomical basis for the doctrine of disposition with reference to the localisation and extent of the tuberculous lesions.

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[1] Wilson: History of Magdalen College.

This comprehensive programme has been dealt with in nearly fifty researches, in nearly all of which Dr. Bartel's name appears as one of the authors, mostly in association with Neumann, Hartel, Spieler, and Stein. Almost all these researches have appeared in the *Wiener Medizinische Wochenschrift*. The general drift and the results of the work have been given by Weichselbaum in his admirable report, "Ueber die Infektionswege der Menschliche Tuberkulose" at the Sixth International Tuberculosis Conference held in Vienna in September, 1907; also by Dr. Bartel in his paper "Leitsätze zur Frage der Tuberkuloseentstehung" at the same Congress, and "Zur Frage der Infektionswege der Tuberkulose" at the International Tuberculosis Congress at Washington in 1908. The present book is an expansion of these reports brought fully up to date. Small cheap books of this kind are features of German publishing as compared with English, and they are all the more welcome as they to a certain extent conserve time which is spent in reading through long articles in which even an expert is apt to lose his bearings in the mass of details. Were works like this more frequent there would be much less re-discovery of well-ascertained facts and medical literature would be the less bulky. Even to the specialist a work like this is of importance as it gives the clue to the development of a special line of work by a group of workers, when the particular place in which the full details are can be consulted.

Dr. Bartel's work has aroused much discussion, one point in particular requiring some comment—viz., the doctrine of a pretuberculous or lymphoid stage in the disease. As is well known, the most diverse interpretations are placed upon the lesions of tuberculosis both as to origin and development. There are those who hold that the infection is mainly aerogenic and others who hold it is mainly enterogenic. Having passed an epithelial membrane which is apparently intact, the virus can locate itself in the regional lymphatic glands and give rise to manifest tuberculosis. The Vienna school, however, assert that the virus may locate itself in the regional glands and remain latent for a long period, while no manifest histologically recognisable tuberculosis can be demonstrated. Higher up in the lymph system tuberculous lesions may, however, be apparent and easily determined. If this be so, no accurate deductions can be drawn from ordinary necropsy material as to the path of entry in a given case of tuberculosis, and the extraordinary differences of opinion of even the most expert morbid anatomists support this statement. Apart from evident tuberculosis, there is or may be, according to Dr. Bartel, a pretuberculous or lymphoid stage in which both the histological evidences of tubercle and even the bacillus cannot be seen. Nevertheless inoculation of such lymphoid material develops tuberculosis in animals. This lymphoid stage, which is characterised at most by lymphoid hyperplasia and swelling of the glands, may remain quiescent—latent—for as long as 104 days in experiments. There must be in this hypothesis something in the lymphoid tissue which prevents the bacillus from manifesting its full pathogenic activity. Indeed, considerable evidence is gradually being accumulated on the importance of a histo-immunity as opposed to a humoral-immunity.

A large part of Dr. Bartel's work is taken up with the foundations of the disposition to tuberculosis, which is apparently to be sought in the varying resistance of the lymphatic tissues throughout the body. The practical importance of all this work is great, as it may be the means of turning the therapeutics of tuberculosis into new channels which will give a greater chance of success than has been obtained in the past, and for this reason we can recommend the study of Dr. Bartel's small but highly suggestive book.

LIBRARY TABLE.

The Health Resorts of Europe. By THOMAS LINN, M.D. London: Reynold's-Ball's Guides. 1909. Pp. 285. Price 2*s.* 6*d.* net.—The fact that this little book has reached its seventeenth edition is a proof that many persons find it useful. It is clearly written, and for its size contains a mass of information. The countries dealt with are Austria-Hungary, Bosnia, Belgium, France, Germany, Great Britain and Ireland, Holland, Italy, Portugal, Spain, and Switzerland. No mention is made of the fairly well-known thermal springs at Piatigorsk in southern Russia some 90 miles N.N.W. of Vladikavkas. Dr. Linn sounds an excellent note of warning in his introductory hints when he impresses upon would-be visitors to a health resort to consult their medical man before going, and not to "take counsel of some kind friend who may have been benefited by taking such and such waters." In a future edition we think that some fuller account might be given of the Bath waters. Except that their temperature is 120° F. and that they contain radium nothing whatever is said about them. But taking it all round Dr. Linn's work is well done.

The Children's Story of Westminster Abbey. By G. E. TROUTBECK. London: Mills and Boon, Limited. Pp. 253. Price 5*s.* net.—This unpretending little book will make a very good Christmas present for a child or even for an adult. In the words of the preface, its object is "to point out to British children how they may follow the great outlines of their country's history in Westminster Abbey." On p. 4, in speaking of the estates of the ancient Abbey, Mr. Troutbeck mentions Covent Garden and Hyde Park. He might have said that, roughly speaking, the whole of the present S.W. postal district belonged to the Abbey. We doubt if 1 per cent. of the visitors to the Abbey know that there was one Bishop of Westminster. Mr. Troutbeck mentions him at p. 18, but does not give his name. He was appointed by Henry VIII., after that masterful monarch had dissolved the monastery. His name was Thomas Thirlby, and he held the see from 1540 to 1550, when he was translated to Norwich, though Mr. Troutbeck says that he resigned. Among scientific men buried or commemorated in the Abbey Mr. Troutbeck mentions Newton, Darwin, Stephenson, Adams, Joule, Stokes, and others, but he omits John Hunter, whose remains were translated from St. Martin's-in-the-Fields owing to the pious care of Frank Buckland in 1859.

JOURNALS AND MAGAZINES.

The Quarterly Journal of Medicine. Edited by WILLIAM OSLER, J. ROSE BRADFORD, A. E. GARROD, R. HUTCHISON, H. D. ROLLESTON, and W. HALE WHITE. Vol. III., No. 9. October, 1909. Oxford: At the Clarendon Press. Subscription price, 25*s.* per annum; single numbers, 8*s.* 6*d.* each.—The contents of this number are: 1. A paper on Leukanæmia, by Charles H. Melland, in which a case is recorded and the suggestion is made that if the name of leukanæmia is to be retained it should be more widely applied so as to include all those atypical cases in which there is a leukæmia-like condition without any, or with very slight, increase in the number of leucocytes. An interesting discussion of the hæmatological relations of this condition is given, together with a useful bibliography. 2. A Contribution to the Study of Rheumatism, with Notes on the After-history of 25 Cases of Scarlatinal Rheumatism, by F. J. Poynton. Some of the problems in connexion with this disease are discussed and special reference is made to the relation between rheumatism and the arthritis occurring in scarlet fever. Dr. Poynton believes that scarlatinal rheumatism is in many cases true rheumatism. He finds that heart disease is a common event in childhood after scarlatinal rheumatism. 3. On

Lymphocytosis of the Cerebro-spinal Fluid in Relation to Tabes, by Judson S. Bury and Albert Ramsbottom. They conclude that lymphocytosis of the cerebro-spinal fluid is not, as has been asserted, a constant phenomenon in tabes and general paralysis, and that although syphilis may play an important part in the production of these diseases it is not an essential factor. 4. On Polycystic Disease of the Kidneys, by Carey Coombs. A case is recorded of polycystic disease in an unpaired kidney, and an analysis of 44 cases is given which shows that in half of them the symptoms of the last phase were those of uræmia. 5. An Investigation into the Histological Condition of the Suprarenal Glands in Conditions Associated with High Blood Pressure, by Austin Philpot. He finds that the medulla of the gland is the region involved, no changes being found in the cortex. The medulla was found to be enlarged in nearly every case, and there was a definite increase in the chromaffin substance. In exhausting diseases, on the contrary, the glands were small, the medulla was very narrow, and only traces of the chromaffin substance were present. 6. On the Diuresis of Chill, by Alexander G. Gibson. The diuresis is found to be far too large to be accounted for entirely by diminution of skin loss; it attains its height during exposure, when the cold is severe and prolonged, but is delayed if the cold is not intense or if the exposure is short. 7. Toxic Arthritis, by J. Campbell McClure. This paper contains a study of two types of arthritis—viz., that which occurs after the injection of antitoxic serums and that after scarlet fever. Dr. McClure suggests that the hypothesis put forward by J. R. Currie to account for serum disease—that it is due to the action of some antigen combining with its antibody to produce a poison, and that in those suffering there is an abnormally quick response, so that the amount of poison produced is beyond the immediate eliminative capacity of the individual—may be applied to these two forms of arthritis. 8. Some Observations on the Administration of T.R. Tuberculin in Pulmonary Tuberculosis, by David Lawson and H. S. Gettings. They conclude that their observations support the claim made by Latham and his co-workers that tuberculin administered by the mouth in cases of tuberculosis is absorbed and modifies the blood content, but they do not think that their observations warrant the conclusion that the temperature is a safe and trustworthy guide as to the behaviour of tuberculin in the body. 9. Some further remarks on Leukæmic and Chloromatous Affections by C. H. Treadgold. Four recently recorded cases of chloroma are analysed and are regarded as supporting the views that the bone marrow is primarily affected in chloroma, and that the condition is closely allied to leukæmia. An interesting discussion of the etiology and pathology of the leukæmias is given, and a plea is urged for simplification of nomenclature. 10. The Estimation and Quantitative Significance of Hydrochloric Acid in the Gastric Contents: a Critical Review, by W. H. Willcox. In this important paper the literature of the subject and the various methods of investigation are carefully analysed. Dr. Willcox lays great stress upon the value of determining the "active" hydrochloric acid of the gastric juice—which includes the acid combined with proteins and organic bases as well as the free hydrochloric acid. 11. The Minutes of the Proceedings of the Annual General Meeting of the Association of Physicians of Great Britain and Ireland, held at Dublin.

Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, K.C.B., ALEXANDER MACALISTER (Cambridge), ARTHUR THOMSON (Oxford), ARTHUR KEITH (London), and ARTHUR ROBINSON (Edinburgh). Vol. XLIV. Third Series. Vol. V., Part I. October, 1909. London: Charles Griffin. Annual subscription, £1 1s. post free.—This number opens with an appreciation of the talent exhibited by the late Professor D. J. Cunningham, and a warm tribute of praise for the valuable assistance afforded by him to the *Journal of Anatomy*. The scientific contents of this number consist of ten articles, which being usually expressed with clearness and brevity scarcely admit of being abstracted. Their titles are: 1. The Nature and Causes of the Descent of the Testes, by D. Berry Hart, M.D. 2. The Physiological Descent of the Ovaries, by D. Berry Hart, M.D., in each of which memoirs some corrections of the ordinarily accepted description are introduced. 3. The Anatomy of the Palatine Tonsils, by G. Seccombe Hart, F.R.C.S., and H. G. Butterfield, B.A. 4. Obliteration of the Left Common, External, and Internal Iliac Arteries, by A. M. Paterson, M.D. 5. A Cyclopæan Fœtus with Hernia Encephali, by F. W. Watkyn-Thomas, B.A. 6. Abnormal Phalanges in a Human Hand: a case of Brachydactyly, by Walter Kidd, M.D. 7. Congenital Deficiency of a Portion of the Thoracic Skeleton, by T. H. C. Benians and H. Emlyn Jones. 8. A Case of Os Parietale Bipartitum in an Australian Aboriginal Skull, by Richard J. A. Berry, M.B., F.R.S. Edin. 9. Further Observations on the Ossification of the Human Lower Jaw, by Alexander Low, M.A., M.B. 10. Nineteenth Report on Recent Teratological Literature (1908), by William Wright, M.B., D.Sc. In addition, there are some Anatomical Notes and a Report of the Proceedings of the Anatomical Society of Great Britain and Ireland.

New Inventions.

A SIMPLE FORM OF NEEDLE-HOLDER.

THE variety of needle-holders already illustrated in surgical instrument catalogues almost leads one to think that each surgeon needs a special form to suit his individual requirements. Believing, as I do, that anything which favours greater simplicity and uniformity in our operative methods is an advantage induces me to bring under the notice of your readers a description of a simple form of needle-holder which has for several years given me perfect satisfaction and is free from many of the objections unavoidably present in more complicated instruments. Many surgeons avoid the use of any holder where possible, and this has been my invariable custom. For superficial wounds a needle, if straight and of sufficient length, can be used more rapidly and efficiently without any holder, and I usually employ an ordinary straight sewing-needle and thimble for intestinal work, which in most cases can be done outside the abdominal wound. There are, however, many situations in which, owing to inaccessibility or the variety of needle employed, the use of a holder becomes imperative, and it is most satisfactory to have ready to hand an instrument that can be used in a facile and effective manner.

The requirements of a good needle-holder are many: (1) It should be simple in construction; and (2) consequently

easily cleaned; (3) it should be able to grasp an ordinary needle of any form in almost any position without permitting it to rotate and without danger of fracturing it (fracture of a fully curved needle is easily produced by pressing it tightly in a holder possessing jaws with grasping surfaces so formed that their approximation tends to straighten the needle); (4) the instrument should be one that can be readily manipulated; and (5) noiseless in action, as

the clicking sound which accompanies the locking and unlocking of many needle-holders is highly irritating to the feelings of a patient who is not under the influence of a general anæsthetic. My needle-holder fulfils the above conditions. Its form and the method of holding it are well shown in the accompanying illustrations. In general appearance it resembles Martin's needle-holder. The jaws are, however, much narrower and more pointed. The surface of the lower blade has a broad and shallow grove, while the surface of the upper blade is flat and leaded. This form of construction makes it impossible for the operator to fracture a curved needle even when severe pressure is used in holding it. If the instrument is held in the manner shown in the illustration the ease with which a needle can be released and again seized will be a pleasure to the operator.

The instrument is manufactured by Messrs. Mayer and Meltzer of London.

C. YELVERTON PEARSON, M.D. R.U.I.,
F.R.C.S. Eng.,
Professor of Surgery, University College, Cork.

FIRST AID DRESSING "ASEPTO."

THE particular merit claimed for this invention, which is to be obtained from Mr. John Voet, 2, Coleman-street, London, E.C., is the facility with which it enables a person, without any assistance or delay, and under most unfavourable circumstances, with dirty and unsterilised hands, to apply an aseptic dressing to his own wounds or to those of others. The dressings consist of compressed pads folded up in an ingenious manner in small and compact packets. Each packet contains one such square aseptic pad attached to two long bandages and so folded that by undoing the bandages the pad can be placed wherever needed and easily tied without any necessity for the person who applies it to touch the inside of the pad with his hands. This method of folding secures the inside of the pad against all contamination and renders it free from any infection whilst the wound is being dressed.

The double packets, which are wrapped in canvas and paper, contain two dressings, to provide against wounds such as bullet or knife wounds, which require the application of a dressing at the points of entry and exit. Yet each packet remains separate, and this makes it possible to use one dressing at a time without opening the other.

The dressing is made so that a wounded person who has only one hand available can easily unfasten it—e.g., with his teeth—tear off the paper wrapping and place the aseptic pad upon the wound. We have examined these dressings in several sizes and can endorse the inventor's claims that they can be applied almost instantaneously with no risk of contamination of the dressing surface. The length of the bandages allows of their ends to be used as a sling if desired. We consider the "asepto" dressing to be a valuable equipment for the soldier in the field. We understand that these dressings, though invented in Holland, are now made in England.

THE AFTER-HISTORY OF LONDON SCHOOL CHILDREN.

THE London County Council considered on Nov. 23rd a report by the Education Committee of an important inquiry it has carried out as to the extent to which the scholars at London's elementary schools drift into unskilled labour. The committee claims that this is the first attempt to collect statistics relating to the occupation of children on leaving school. At any rate, its figures are sufficiently striking. Returns made by the head teachers of several hundred schools showed that in 1907–08 33·2 per cent. of the boys who left the elementary schools went to skilled employment, 61 per cent. joined the ranks of unskilled labour, and 5·8 per cent. continued their education at secondary schools. (This last figure takes no account of boys who passed on to secondary schools before reaching the highest standard.) The destination of the girls leaving school was: skilled employment, 58·1 per cent.; unskilled, 34·1 per cent.; higher education, 7·8 per cent. The latter figure, by the way, appears to indicate a tendency no longer to restrict the benefits of an extended education to the boys of the family, as used to be the case. With regard to the larger proportion of girls who are returned as having obtained skilled employment, the committee mentions that there was considerable divergence of opinion amongst those making the returns as to what was to be considered "skilled" labour in the case of girls. Those who took up domestic service, for instance, were classified as skilled or unskilled according as they went to good positions or were merely employed as "day girls." Another consideration which detracts from the conclusiveness of the statistics is that in many cases frequent changes of employment have been noticed to take place during the first year after leaving school, the children subsequently settling down into some regular, and even skilled, calling. However, after all allowances have been made, the returns show, as the committee points out, that little more than a third of the children on leaving the elementary schools enter a form of occupation which by any stretch of imagination can be called "skilled." The remainder drift into unskilled trades, where they speedily lose the greater part of the mental and moral training instilled at school at such an infinity of time, trouble, and expense. This in spite of the fact that London with over half a million employees in factories and workshops is perhaps the greatest industrial community in the world, and the London child, if efficient, has the best possible opportunity of entering a skilled trade and taking precedence over the new-comers from the country and abroad who eventually constitute one-third of London's population.

A considerable factor in bringing about the state of affairs revealed by the committee's investigations is the unfortunate lack of interest shown by parents of the poorer class in the future of their children. It is a common practice for the children, with only the limited experience of 14 years to guide them, to select their own occupations, and to find for themselves their first situations. They are too young to choose wisely, and they shift from place to place until they discover something that suits their taste and ability. The committee suggested that to render education of more value to the scholars and to equip them to take better positions when they leave school, the age of attendance should be extended to 15 years, and that until the age of 18 is reached attendance at half-time classes should be required. The classes should be attended during working hours, for the experience of many years has shown that evening continuation schools cannot adequately meet the need. The long hours of work and the great distances travelled to and from the place of employment often render attendance impossible, and even where this is possible the boy or girl, after the day's physical exertion, is not always in a fit state to profit by the instruction given. The difficulty of inducing employers to release their employees for attendance at classes is so great that the committee has no hope of the practice becoming general unless Parliament makes it compulsory. The committee would apply a "half-time" system also to the youth of 18, who, after four years of unskilled labour, has lost the intelligence and aptitude of the boy and is on the way to become a clumsy and unintelligent man, fitted for nothing but unskilled labour and likely to become sooner or later one of the unemployed. In the case of girls it is suggested that instruction in domestic subjects should form part of the curriculum at the "half-time" school.

In another part of the report (which deals exhaustively with the subject and is to be placed on sale) an account is given of the trade schools which already exist on a small scale in London, and also of the work of the Apprenticeship and Skilled Employment Association, 36–7, Denison House, Vauxhall Bridge-road, which has been largely instrumental in securing the establishment of local apprenticeship committees in 16 districts of London.

The Finance Committee, dealing with the financial aspects of the proposals, estimated the annual cost at approximately £100,000, and expressed the view that unless additional Exchequer grants are made the present is not the time to put forward such drastic and far-reaching proposals.

UNIVERSITY OF LIVERPOOL: ANNUAL DINNER OF LIVERPOOL MEDICAL STUDENTS.—The Liverpool medical students will hold their annual dinner at the Adelphi Hotel, Liverpool, on Saturday, Dec. 11th, at 7.30 P.M. Dr. J. Hill Abram will occupy the chair and Mr. R. Craig Dun the vice-chair.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 27, 1909.

Schools and Infectious Diseases.

AN exceedingly useful official memorandum has been issued conjointly by Dr. A. NEWSHOLME, the chief medical officer of the Local Government Board, and Dr. G. NEWMAN, the chief medical officer of the Board of Education—a memorandum which points out, among other things, the way to avoid friction between the district medical officer of health and the school medical officer "when they are not the same officer." The Board of Education might perhaps have been expected to say "when the two offices are not held by the same person," but we have no desire to be hypercritical, and the words of our old friend the bookseller leave no doubt as to the meaning which they are intended to convey. They are introductory to a careful analysis of the conditions under which the closure of a school, or the temporary exclusion of some of the pupils, may be rendered necessary by the existence of contagious disease, and to recommendations concerning joint action between the sanitary and the educational authorities of the locality concerned. It is pointed out that if the sanitary authority of the district in which the school is situate, or any two members thereof, acting on the advice of the medical officer of health, require either the closure of the school or any department thereof, or the exclusion of certain children for a specified time, with a view to preventing the spread of disease or any danger to health likely to arise from the condition of the school, such requirement must at once be complied with, and the compliance will not involve any forfeiture of the grant; while the school medical officer possesses an equal power of saving the grant in the case of any closure on account of disease by managers acting under his advice or with his approval, although the medical officer of health should not have intervened. There are thus two independent powers, each of which may cause the closure (partial or complete) of a school without loss to the managers; and the memorandum is the expression of the desire of the two central authorities concerned, the Local Government Board and the Board of Education, that the relations between the local sanitary authority and the local education authority should in all respects be intimate and cordial, in order that the administrative procedures of the two bodies may be reciprocally beneficial. It is only, we are informed and can well believe, by such mutual coöperation that the best interests of each district can be secured to the fullest extent.

The memorandum then enters into details with regard to all the principal elements of the questions which the several medical officers "when they are not the same officer" will be called upon to consider and to deal with by united action, and it describes in some detail the chief conditions, and the most important illnesses, by which either the closure of a school or the exclusion of certain children can be required or justified. On all the points thus dealt with its directions are so precise, and so manifestly in harmony with the requirements of the public safety, as to leave very little room for differences of opinion as to the course which should be pursued; and as the duty of the medical officer of health is primarily to secure the safety of the public, while that of the school medical officer is primarily to secure the welfare of the scholars, it is evident that the former will usually be the person who is called upon to take the initiative in the case of any outbreak of disease calling for active interference. The success of his efforts to combat such an outbreak will, at the same time, as far as the action of schools is concerned, be largely dependent upon the goodwill and the cordial assistance of teachers and school authorities; and it is manifest that their attitude in relation to the matter is likely to be much influenced by that of their own medical officer, and by the extent of his approval of the course taken or recommended by his colleague. It is therefore a judicious procedure, on the part of the central authorities, to describe as accurately as possible the conditions which are likely to arise and the action which they will severally require, and in this way to render it difficult for the officials concerned to adopt any other line of action than that which the memorandum prescribes. The course to be generally pursued in respect of each one of the diseases ordinarily epidemic or ordinarily incident largely upon children of school age is explicitly laid down; and except, it may be, with regard to the facts of occurring illness, scarcely any opportunity is left for the display of want of harmony between the officers respectively concerned. It seems hard to dispute that the ideal conditions for efficiency would be those in which these two officers were "the same officer," and in which the several non-medical local authorities were completely shielded against the embarrassment which any conflict of opinion between their respective advisers could hardly fail to produce; but this of course is exactly the point upon which there is a difference of opinion in the medical profession. The memorandum before us evidently takes the view that where possible the two officers should be "the same officer."

We fear, indeed, as a matter of fact, that there is sometimes a considerable tendency on the part of local authorities to seek to neutralise the efforts of their medical advisers by the promotion of something like rivalry between them. The average member of a rural or an urban district council may still regard scientific knowledge with a curious mingling of feeling. He knows it means expenditure against which, as far as he does not understand the reasons, he will continue to strive; but he has apprehensions that, after all, "there may be something in it," and that his opposition to its dictates may produce disaster. He cannot understand the anxiety of medical men to prevent disease; and, as many men can only realise the motives by which they are themselves actuated, he sometimes regards this anxiety as arising from self-interest and therefore to be resisted by the representatives of the community. That it is hard

to explain where the self-interest comes in is a difficulty which in no way shakes conviction of its existence. That the two medical officers should be "the same officer" would often appear to a popular representative of this sort as a condition fraught with peril, if not to the State, yet certainly to the ratepayers, and in his determination to avoid so ill-omened a conjunction he is not unlikely to be strongly in favour of conferring the two appointments upon gentlemen who are suspected of a certain degree of rivalry or of antagonism. There can be no doubt of the absolute necessity for unanimity of action among those of the medical profession who are serving the State in public capacities, or of the importance of the profession protecting itself, by the maintenance of cordial relations between its official members, from the designs of those who would weaken its corporate action by the aid of differences between individuals. That such differences must here and there exist is perhaps unavoidable, but there are regions of activity into which they should never be permitted to intrude. The closure of a school in consequence of an epidemic is an event which has often excited a good deal of strong feeling in the locality concerned; and it is therefore one as to which the medical chiefs of the sanitary and of the education departments are fully justified in calling upon their subordinate officials for unanimity, and in pointing out the lines of action by which this unanimity may most effectually be secured.

The Healer as Prophet.

IT is said that a medical autocrat who exercised a professional tyranny over the polite world some hundred years ago once told a young lady whom he had pronounced to be "in a consumption" that she had but two years to live. Being of a contrary nature, however, and having good powers of resistance, on the day when she should have been snug in her coffin the prophet of evil met her out walking and in a positively robust state of health, and as she had not consulted him for some time she hastened to accost him. The physician promptly affected not to see her, and thereafter he passed her always without a sign of recognition, since from his professional point of view she had expired with the period of his prognosis. Absurd as the story is, it serves to emphasise a habit of "cock-sureness" in settling some of the most difficult and delicate questions conceivable that seems to have been not uncommon amongst our professional grandfathers, especially those in the consultant ranks. Possibly some of our readers are acquainted with people who at some time of their lives have been "given so many years to live." Certainly many of those doomed ones are now doing a useful share of the world's work, and in such cases nobody but the stultified prophet has been the worse for his hasty utterance. Most physicians engaged in insurance work have heard of such dicta, but usually in reference to family history, and we are glad to think that medical men are now far more chary in hazarding a measure of their patients' days. Not only has the medical profession realised the appalling responsibility of a hopeless prognosis, for in no matter is experience more fallacious and judgment more difficult, but it has also come to learn that the counsel of the physician should be one of encouragement rather than of despair, and that, however desperate be a patient's condition, and however importunate he be to know the worst, nothing but harm can result by presenting a full tale of terror to an imagination which in many cases is only too expectant of evil tidings.

In a few special instances, it is true, circumstances may point to the expediency of appraising a patient's expectation of life at his own request, but the power of suggestion over certain physical processes cannot be denied, and in the great majority of cases the formal declaration by one in whom a sick man has confidence as a wise and expert adviser that whatever be done to relieve his urgent distress his days can be numbered with a fatal certainty may have a disastrous effect. There is evidence from the annals of witchcraft that a healthy person believing himself to be persecuted by an occult and evil influence can sicken and even die under a purely psychic oppression; indeed, in our own day the practice of the rites of Obeah in our West Indian colonies has been made a penal offence, because there is no doubt whatever that the gravest physical consequences have happened to ignorant negroes who believe that they have "had Obi put on them" by a witch-doctor at the instigation of an enemy. This, of course, is an extreme case, but we quote it as showing the ill that can accrue from the force of an authoritative suggestion, and we believe that a medical death-sentence may shorten a sick and anxious man's remaining life. Certainly the physician who pronounces it takes a heavy responsibility upon himself. Even if a man may not arrive at recovery it is surely better that he should continue to journey hopefully towards his end. The question then arises, "Is a medical man ever justified in sitting as judge and recorder of his patient's days?" We think the justification can be present but rarely. In almost every instance where it is necessary that such warning should be given it can be given to the friends of the sick person, and the medical attendant may very properly discuss with them the advisability of telling the patient of his serious condition. As we have said, an occasional case must arise in which a man who has been found to be suffering from a mortal malady demands to know the whole truth and gives such reasons for it that the request cannot be refused, painful though it be to reply, but we appeal to common experience that such cases are rare in the extreme. To warn a man that he must be careful in his exercise or his diet because he has an affection of his heart or kidneys that demands his earnest coöperation in its treatment differs widely from telling him that obedience gives him his only chance of life. If he proceeds to disregard the warning systematically it may become necessary to utter the graver words, but even in such a case the wise practitioner will not attempt to prophesy the length of remaining life. Or it may be the surgeon's duty to tell a woman that she has a growth that will be ultimately fatal if it is not removed, but it is neither expedient nor useful for him to guess how long her pathological condition will allow her to live.

The Schorstein Lecture on "Syphilis and Aneurysm."

THE choice of the Regius Professor of Medicine in the University of Oxford to deliver the Schorstein lecture at the London Hospital was felicitous, and would certainly have been grateful to him in whose memory the lecture was instituted, for the late Dr. SCHORSTEIN'S devotion to his old university was well known. After a sympathetic reference to his career and its tragic and untimely close, Professor OSLER gave his lecture on the subject of "Syphilis and Aneurysm." The time is ripe for a careful and critical investigation of the part played by syphilis in the production of arterial disease and especially in the genesis of aneurysm, for the discovery by SCHAUDINN of the spirochæte of syphilis, which Professor OSLER acclaims as one of three achievements of the first rank already effected in the twentieth century, and also the recent developments in regard to serological investigations of syphilis by WASSERMANN have rendered it possible to attack the problem fundamentally. Professor OSLER, in an historical summary, first showed clearly how the acute and almost prophetic insight of some of the great master-minds of the past arrived at the truth, or an approximation to it, in connecting aneurysm with syphilis. Thus AMBROISE PARÉ mentions the association but hints that the mercurial treatment is the cause, while FERNELIUS, MORGAGNI, and LANCISI also definitely described aneurysm as a sequel of syphilis. In spite of these early observations, the connexion between syphilis and aneurysm appears to have been lost sight of until the latter part of the last century, when the general attention directed to the manifestations of visceral syphilis, in which British investigators played no inconsiderable part, once again brought up the question of the relation of syphilis to disease of the blood-vessels. In this connexion Professor OSLER paid a well-deserved tribute to the medical officers of the British army, who, he maintained, first forced the recognition of the part played by syphilis in aneurysm. He referred in some detail to a paper published in 1875 by Colonel FRANCIS H. WELCH, then assistant professor of pathology at Netley, which he described as the most important communication on the subject in English. Colonel WELCH proved in it the frequency of the association and further recognised macroscopically the form of aortitis now regarded as pathognomonic of syphilis. Previously to this, in 1863, Sir SAMUEL WILKS recognised the importance of syphilis in arterial disease, and described the characteristic syphilitic arteritis of the cerebral vessels, while Sir CLIFFORD ALLBUTT in 1868 studied the histological changes in these vessels. Professor OSLER also referred to the work on the same subjects by French and German workers and by the Dublin school, including that of TAFNELL. During the past 30 years the numerous researches upon the lesions of the aorta and their relation to syphilis have established the existence of a form of aortitis found in association with syphilis, which forms the basis of a large proportion of the cases of aneurysm. This form has been described by most recent workers as a mesaortitis. Thus in a paper by Dr. C. U. AITCHISON, published in the second volume of the *Archives* of the Pathological Institute of the London Hospital, atheroma is differentiated as a degenerative process characterised by proliferation and subsequent necrosis in the intima and by degeneration in the media, while mesaortitis is described as inflammatory and characterised by round cell infiltration of the adventitia and media with destruction of the muscular and elastic elements. Morbid anatomy and histology could carry investigation but little, if any, further, and it is only in virtue of the new methods rendered possible by the discovery of the spirochæte of syphilis and by the serum reactions that the relationship has been proved conclusively. Already numerous observers, including SCHMORL, REUTER, BENDA, and KLOTZ, have described spirochætes in the lesions of the aorta, and Dr. J. H. WRIGHT of Massachusetts has found them in five cases of aortitis, one being associated with aneurysm. The Wassermann reaction has also now been extensively applied in cases of aortic disease and aneurysm, and a positive reaction obtained in no inconsiderable proportion.

It is of interest to notice the special features of the syphilitic aortitis or mesaortitis which forms the basis for the development of aneurysm. Professor OSLER revealed these with characteristic succinctness. Macroscopically the process may be very localised, involving only an inch of the aorta, usually the first part of the arch, and implicating the valves, but it may occur about the origin of the great vessels or in the descending aorta just above the diaphragm. The typical appearance has been described as cicatricial or fibrous aortitis and is characterised by scarring or puckering with narrow linear furrows or little pits with radiating stellate lines. There is also translucency in places due to localised atrophy, giving a bluish tint to some of the depressions. The yellow raised nodules and calcified flakes found in atheroma may be entirely absent, although these lesions may be combined with those of the syphilitic mesaortitis. Microscopically there is necrosis with fragmentation of the elastic fibres of the media, while a cell infiltration separates the elastic and muscular fibres, and extends between the lamellæ in lines, sometimes forming large foci of round-celled infiltration containing giant cells and areas of necrosis. Miliary gummata may also be found, and the adventitia shows areas of cell infiltration, especially about the vasa vasorum, while many of the smaller vessels show obliterative endarteritis. The changes in the intima are atrophic in places, at others they are those of compensatory thickening. The presence of spirochætes may also be demonstrated. Professor OSLER then discussed the processes by which an aneurysm may develop on the basis of a mesaortitis, whether due to syphilis or to any other infective agency. He described three modes of origin—first, by acute necrosis and erosion; secondly, by splitting of the intima over the weak spot, either spontaneously or as the result of strain or effort; and thirdly, by weakening of the aortic wall, followed by a gradual dilatation. Some interesting statistical considerations relating to aneurysm were given and discussed. Professor OSLER pointed out that about 1 in 459 deaths are returned in England and Wales as due to aneurysm, and that apparently the incidence of aneurysm varies greatly in different countries. He also quoted some interesting figures in regard to the percentage

of cases of aneurysm from which a history of syphilis can be obtained. In 31 cases of aortic aneurysm seen in private in 3 no mention was made of syphilis, while in 10 it was denied, and in 18—i.e., 58 per cent.—there was a positive history. Among 248 cases at the Johns Hopkins Hospital there were 204 cases of aneurysm of the thoracic aorta. Of the total cases there was a well-marked syphilitic history in 40·9 per cent., while the percentage in the thoracic cases was 40·6. In regard to the clinical features of the aneurysms consequent upon syphilitic disease of the arteries, sudden death from perforation of an unsuspected aneurysm is, of course, by no means infrequent. These are, said Professor OSLER, the aneurysms of the third and fourth decades of life, and they often present a triad of features—viz., angina pectoris, aortic insufficiency, and aneurysm, angina pectoris being often the first symptom. The beneficial effects of iodide of potassium, which are noteworthy in the syphilitic form of aneurysm, he held to be especially useful in the varieties presenting this triad of features.

In an eloquent peroration Professor OSLER asked what could be done to restrain the ravages of syphilis, which at a low estimate he maintained to be responsible for 6000 or 7000 deaths annually in this country, without taking into account the unestimated but very large number of stillbirths undoubtedly due to it. He urged in cogent language, first, the wholesome education of youth in matters sexual; secondly, the adoption of measures such as a special police force of men and women to clear the streets and places of public amusement of the open importunities and opportunities for vice; thirdly, that venereal diseases should be put in the same category as other acute infections dangerous to the public health, and each case known should be registered and supervised, though he admitted that such a course might seem visionary and impossible now; lastly, he advocated the increase of facilities for early and prolonged treatment, expressing the hope that the new methods of investigation may lead to forms of treatment which will cut short the disease at its very onset. The occasion of a lecture such as the Schorstein memorial affords an excellent opportunity for some critical observer to call a momentary halt, and as it were report progress on some special point of general interest. Professor OSLER fulfilled this function in a manner wholly admirable, and his lecture was at once an interesting *résumé* of the present state of our knowledge and an incentive to further efforts in prophylaxis and treatment along the lines which he so eloquently suggested.

THE PREVENTION OF TUBERCULOSIS.—The Tottenham urban district council, on the application of Dr. J. F. Butler-Hogan, its medical officer of health, has granted the free use of the council chamber on Wednesday, Dec. 15th, for the purpose of a lecture on the Prevention of Consumption by Dr. R. W. Philip of the Royal Victoria Consumption Hospital, Edinburgh. As the seating accommodation is limited, early application should be made to the medical officer of health, Town Hall, Tottenham, by medical officers and others wishing to be present on the occasion.

Annotations.

"Ne quid nimis."

THE STANDARDISATION OF DISINFECTANTS.

WE conclude this week the report of our Commissioners upon the standardisation of disinfectants, and from the summary and conclusions which appear in another column our readers will see that a very interesting position has been reached by their work. A method of chemical analysis has been devised which is believed to render a very fair statement of the composition of the disinfectant preparations of the tar or phenolic class which are commonly sold to the public. A bacteriological method has been carefully worked out which gives a truer estimate of the germicidal power of the disinfectant than has hitherto been the case. The chemical and bacteriological results were obtained quite independently and in different laboratories, and when they were brought together certain relationships between them began to appear. Bacteriological figures assigned an order of merit for the various disinfectant preparations examined, and these figures were found to coincide closely with figures founded on chemical considerations. The two sets of figures showed a remarkable parallel. It seems probable that a satisfactory chemical account of a given disinfectant will afford an accurate indication of its germicidal power, but, of course, chemical analysis cannot do more than suggest how far the germicidal agent present is effective under the conditions in which it has to act. As a matter of fact, bacteriological tests, as at present performed, yield figures which convey no real idea of the germicidal power of the agent when it is applied for the purposes of practical disinfection. The figures give merely a comparison, bounded by narrow conditions, between the germicidal power of carbolic acid and that of the disinfectant under consideration, whilst little or nothing is known as to what this germicidal power of carbolic acid amounts to when applied to disinfection under the common conditions of practice. It is conceivable that a consideration of this fact offers some explanation of the remarkable analogy between bacteriological and chemical factors. The bacteriological and chemical activities of an agent appear to be identical powers, and thus under what may be called the ideal conditions of experiment the bacteriological numbers prove to be chemical numbers, and just as the chemical activity of a substance is depreciated by foreign matters so is its germicidal activity reduced. The value for bleaching purposes, to give an analogy, of a solution of chlorine in distilled water may be such that it will effectually bleach a yard of calico, but if the same quantity of chlorine is dissolved in, say, muddy river water, or water polluted with organic matters, its bleaching power may be so reduced as to leave the yard of calico only partly bleached, if bleached at all. The conditions are similar in the practice of disinfection. The question of practical disinfection, in short, is not so easy of solution as is the question of germicidal activity. The work of our Commissioners further indicates lines along which future research must go. Taking into consideration the weakening influence of the environment of every-day disinfecting conditions, they have never been able to find, even under the ideal conditions of bacteriological experiment, such high coefficient figures as have been given to certain disinfectants by other observers, and they are forced to the opinion that many disinfectants have had claimed for them a value, when compared with carbolic acid, which is by no means justified.

SPINAL ANÆSTHESIA BY STOVAINE AND STRYCHNINE.

DURING the visit to London of M. Jonnesco, Dean of the Faculty of Medicine in the University of Bukharest, members of the profession have had an opportunity of observing the latest development of spinal anæsthesia in the hands of its originator. On Friday last, Nov. 19th, M. Jonnesco delivered a lecture before the Surgical and Anæsthetics Sections of the Royal Society of Medicine, in which he dealt with many features of his subject, and we give here a brief account of certain cases at the "Dreadnought," where, through the courtesy of the staff of the hospital, M. Jonnesco was enabled to demonstrate his method. The patients upon whom the method was shown were three in number, and we must say at once that the results did not bear out all the claims made by M. Jonnesco in his published statements. At the same time it is to be remembered that, speaking no English, the operator was unable to gain the confidence on the patient's part of which he is wont to avail himself. To be able to talk to the conscious patient, to reassure him, and to distract his attention are aids to success which M. Jonnesco usually employs, and which were, of course, denied him in the case of patients whose language is unknown to him. Moreover, he had not himself prepared the ingredients which he used for injection, although these were prepared, we understand, exactly in accordance with his directions. Again, he was showing something new to a large and keenly interested gathering of medical men, and it may be that the comparative want of success was due in part to his natural eagerness to show quickly those effects which perhaps would have been obvious if more time had been allowed for their development. The first case was that of a young man requiring operation for a breaking-down glandular mass on the left side of the neck. The patient was a good subject, not nervous or frightened, of healthy colour, and of fair intelligence. Sitting up, he was injected between the first and second dorsal vertebræ with 1 cubic centimetre of solution which contained 3 centigrammes of stovaine and ½ milligramme of strychnine. After the injection he was kept sitting for about a minute and was then told to lie down, his head resting on a pillow. After about a minute in this position his head was lowered below the level of his shoulders for about half a minute and then placed again on the pillow. There were now some retching and moistening of the lips with the tongue. He was told to turn his head to the right, and all the surgical preparations having been previously made and a piece of lint lightly placed over the patient's eyes, M. Jonnesco at once made the incision. There was no evidence of pain, and it was obvious that the patient was unaware that he had been cut. Vessels were picked up and tied, the same quiet condition persisting. When, however, a little dragging of tissues was necessary to expose glands or to secure bleeding vessels there was almost continuous moaning on the patient's part. In answer to questions, however, he admitted that what he felt was not very bad. The skin suturing caused him no sensation at all. This case, then, demonstrated the truth of M. Jonnesco's assertion that it is possible with perfect safety to inject his solution high up in the spinal canal, and to place the patient in such a position that presumably the solution reaches the brain. There was no evidence of any respiratory paresis, nor of any effect at all upon the medulla, unless the short attack of retching be regarded as such. The colour was well preserved, and the way in which cut arteries spurted showed that there was no depression of circulatory vigour. The skin anæsthesia in this case descended to the level of the middle of the thighs. The corneæ were insensitive to touch, and the arms were paralysed. After-effects were limited to severe headache of some hours' duration. From the point of view of the surgeon, then, this case, in which the operation lasted about 15 minutes, was during the time of operation almost perfectly successful. The only drawback was that moaning to which reference has been made. On the next case, a laparotomy for gastric carcinoma, the same judgment cannot be passed. Here there was not only groaning but straining expiration which interfered with the surgeon's manipulations to an undesirable extent. In fact, it appeared to us that had a gastro-enterostomy been attempted it could not have been carried through with the degree of anæsthesia provided. To what extent the straining was due to sensation of pain on the patient's part we cannot say. It became more obvious when the parietal peritoneum was incised, but it was aroused to some extent by the skin cut too. As there was found a mass of carcinoma in the cardiac portion of the stomach the abdomen was closed. The injection in this case had been made between the twelfth dorsal and first lumbar vertebral spines. In the third case the high injection was made in order to procure anæsthesia for a mastoid operation. After two injections, although the skin was perfectly analgesic there was so much agitation on the part of the patient, a boy, when periosteum was dealt with that chloroform was resorted to and the operation performed under its influence. M. Jonnesco lays great stress upon the importance of not sterilising the stovaine itself. The chemists who prepared the stovaine for this occasion declare that it was not sterilised. Its behaviour, however, suggested to some that in reality there had perhaps been a mistake in this respect and that to this the want of complete success in the demonstration may have been due.

SUMMER MORTALITY IN IRISH TOWNS.

THE Registrar-General's quarterly summary of his weekly returns during the three months ending with September last shows that the annual rate of mortality during this period in the 22 town districts of Ireland, with an estimated population of 1,142,398, was equal to 15·8 per 1000, and exceeded by 4·0 per 1000, or no less than 34 per cent., the mean annual rate during the same period in the 76 largest English towns. This great excess of mortality in the Irish towns is the more remarkable in view of the fact that 16 of the 22 town districts consist of small towns with populations under 14,000, whereas the smallest of the 76 English towns has an estimated population exceeding 50,000. The annual death-rate during last quarter in the six largest Irish towns was equal to 13·1 in Limerick, 14·6 in Belfast, 15·1 in Londonderry, 17·1 in Dublin, 18·5 in Waterford, and 19·0 in Cork; it should be noted that only in Dublin, Belfast, and Cork does the population of these Irish towns exceed 50,000. Even in the 16 small town districts, including two with populations under 8000, the mean annual death-rate last quarter was equal to 14·7 per 1000, which exceeded by 2·9 per 1000 the mean rate in the 76 largest English towns. Infant mortality in the aggregate of the 22 Irish town districts during last quarter, measured by the deaths under one year to births registered, was equal to 139 per 1000, whereas in the 76 large English towns it did not exceed 119 per 1000; it was equal to 143 in Dublin, 152 in Belfast, 136 in Cork, 147 in Londonderry, 117 in Limerick, and 232 in Waterford. In the 16 smaller town districts, however, the mean rate of infant mortality last quarter did not exceed 98 per 1000. The annual rate of mortality from the principal epidemic diseases in the 22 Irish towns last quarter was equal to 2·0 per 1000, while in the 76 English towns it did not exceed 1·6 per 1000; this rate from the principal epidemic diseases in the six largest Irish towns was equal to 1·9 in Limerick, 2·0 in Dublin, 2·2 in Belfast and in Londonderry, 3·1 in Cork, and 5·4 in

Waterford. The mean rate from those epidemic diseases in the 16 smallest town districts did not exceed 0·8 per 1000; of the 585 deaths during last quarter in the 22 Irish towns 390 resulted from diarrhœa, 112 from whooping-cough, 28 from diphtheria, and 25 from enteric fever; 358 of the 390 fatal cases of diarrhœa, all but one of the 112 from whooping-cough, 24 of the 28 from diphtheria, and 23 of the 25 from enteric fever occurred in the six largest Irish towns. These statistics relating to last quarter make it impossible to doubt that the sanitary condition of the largest Irish towns compares very unfavourably with that of the largest English towns having far larger populations. The marked excess of infant mortality last quarter in the six largest Irish towns is the more noteworthy because the general rate of infant mortality in Ireland is, as a rule, distinctly lower than that recorded either in England or in Scotland.

DELAYED POISONING AFTER CHLOROFORM INHALATION.

IN the *Johns Hopkins Hospital Bulletin* for September Dr. G. H. Whipple and Dr. J. A. Sperry have published an important paper on so-called delayed poisoning by chloroform based on an extensive experimental investigation in animals and on one remarkable case in man. They have advanced our knowledge a stage. Recent researches have proved that chloroform narcosis in animals for any considerable length of time may in some cases cause central necrosis of the hepatic lobules, and this condition if extreme is fatal. When recovery occurs repair of this necrosis, which may have involved one-half or more of every lobule in the liver, is very rapid, and the organ is restored to normal by absorption of the necrotic cells and multiplication of the remaining cells in two or three weeks. By administering chloroform to dogs for some hours Dr. Whipple and Dr. Sperry induced pathological changes similar to that occasionally observed in man after chloroform inhalation. The animals recovered from the anæsthetic and appeared well, but after a time they began to vomit and sometimes diarrhœa occurred. Drowsiness followed and terminated in death after one to four days. Post-mortem examination showed central hyaline necrosis of the hepatic lobules, which was sometimes so extreme as to involve all the hepatic cells except a row or two about the portal spaces. There was fatty degeneration of the cells, which was most intense in the boundary zone between the central necrosis and the intact cells about the portal spaces. There was also fatty degeneration of the kidneys and heart. In some cases small submucous hæmorrhages and shallow ulcers, from which there was sometimes much hæmorrhage, were found in the stomach and duodenum. Why the hepatic necrosis produced by chloroform should be central is not easy to say. It is well known that in human and animal pathology central necrosis is common and peripheral necrosis is rare. By prolonged chloroform inhalation the necrosis may be made to extend until every hepatic cell is killed except a row or two about the portal spaces. The explanation of the distribution of the necrosis seems to be that lack of arterial blood or accumulation of waste products in the blood (which flows from the periphery to the centre of the lobule) renders the central cells more susceptible to the poison. Dr. Whipple and Dr. Sperry report the following remarkable case in which they believe fatal delayed chloroform poisoning followed a minor operation. A well-nourished negress, aged 19 years, was admitted to hospital with tuberculous cervical glands in the neck and right axilla. In the axilla was a lump which discharged pus. Under chloroform abscesses in the chest wall and axilla were incised and drained. The duration of the anæsthesia was 35 minutes. The patient stood the operation well and rapidly recovered from the anæsthetic. But vomiting began in the night and continued on the following day, when there were muscular tremors in the arms and legs, delirium, and slight jaundice of the sclerotics. Convulsions and coma followed, and death occurred at 6.40 P.M. The urine contained a trace of albumin and a few hyaline casts but no acetone. The necropsy showed extreme central necrosis of the hepatic lobules and fatty degeneration of the kidneys and heart. It is stated that ether anæsthesia causes similar visceral changes, but this is denied by Lengeman and others who have found that even prolonged anæsthesia causes no damage to the viscera. It has long been recognised that chloroform, like many other poisons, will, under certain circumstances, produce certain pathological changes in the organs concerned in the metabolism of the body. It has been shown pretty conclusively that chloroform is only one of many factors which are concerned in producing these changes. In many of the cases which have been published such extremely small quantities of the anæsthetic have entered the circulation that no doubt can be entertained upon this point. The original workers in this field—Thiene, Fischer, and Strassburg—demonstrated that concentrated doses of chloroform, when given for a long time or repeated within short intervals, cause the curious lesions to which Dr. Whipple and Dr. Sperry refer, but it is all-important to recognise that chloroform in appropriate percentages does not necessarily cause them. It may do so if other contributory circumstances exist, but the fact remains that of the thousands upon thousands of persons who have inhaled chloroform the large proportion have done so without developing acidosis and degenerative changes in the liver. Research in this direction appears to prove the danger of chloroform in concentration and to emphasise that its safety lies, not only in avoiding the classic dangers of respiratory failure and undue fall in blood pressure, but also in restricting the quantity employed to the bare needs of anæsthesia. Deep and prolonged narcosis carries with it the danger of chloroform toxæmia, the destruction of the protoplasm of certain organs of the body, and our present knowledge, due largely to the work of Professor Moore and Dr. Roaf, explains how this destruction may be brought about. We know also that deep narcosis is seldom, if ever, needed in surgery, and certainly need never be greatly prolonged. It would be matter of regret if such work as that of Dr. Whipple and Dr. Sperry were read to mean that chloroform as such possessed intrinsic and uncontrollable toxic properties; to us it seems rather to add one more argument in favour of using chloroform in a scientific manner and by definite doses.

SCIENTIFIC CHILD-STUDY.

WE have received a letter signed by Professor J. J. Findlay, President of the Child-Study Society, and Sir Edward Brabrook, its chairman, saying that the council of the society in its effort to place its work on a scientific basis has approached Professor Karl Pearson, F.R.S., who with his laboratory at University College, London, is in a position to render exceptional service. Professor Pearson has drafted a schedule for studying the factors influencing the social life of the child, which he desires to have filled in by heads of families or by teachers intimate with families. The number in the family need not be large, but particulars of father, mother, and at least two children are required. It is considered more important that the schedule should be filled up for families of the upper, middle, or professional classes. The schedules are being distributed through the branch

secretaries of the society in London and in other large centres, and we suggest that our readers might assist this work by applying for a copy of the schedule and taking the trouble to fill in the particulars, for either their own families or those of friends who would give their intelligent and sympathetic coöperation in the inquiry. The schedule is ingeniously contrived to elicit a large amount of information concerning the parents' qualities and aptitudes, as well as touching the characteristics of the children, regarding whom the inquiries concern their health, upbringing, education, tendencies, and modes of living, work, and play, sufficient to afford a fair summary of their psychological development. The correlation of a large number of these charts will entail an enormous amount of work, and it is to be hoped that only those will apply for them who are prepared to fill them up with painstaking accuracy. The proper preparation of one schedule would probably take two or three hours' careful consideration. The council states that parents who would prefer that the actual names of their family should be withheld can fill up a copy of the schedule on that understanding, supplying their name solely to the secretary, who issues the copy with a key-number. Copies can be obtained from the Secretary of the Child-Study Society, 90, Buckingham Palace-road, London, S.W.

THE DOCTOR OF DICKENS'S DAY.

Mr. G. W. E. Russell contributed a whimsical article to a recent issue of the *Manchester Guardian*, in which he contrasted the family physician of 50 years ago with his successor of to-day, claiming as his justification that he was in his own person a monument of medical practice, having "not only seen, but felt," the rise and fall of several systems of surgery. Broadly speaking, he said, the doctors of the "fifties" and "sixties" were as Dickens drew them, the doctor who was called to the bedside of Little Nell, and came with "a great bunch of seals dangling below a waistcoat of ribbed black satin," being a most carefully finished portrait. Such, exactly, were the family physicians of Mr. Russell's youth. They always dressed in shiny black—trousers, neckcloth, and all; as a class they were bald, and though they shaved their lips and chins they wore carefully-trimmed whiskers. They said "Hah!" and "Hum!" in tones of omniscience which would have converted a Christian Scientist; and, when feeling a pulse, they produced the largest and most audibly-ticking gold watches known to the horologist's art. They had what were called "the courtly manners of the old school"; were diffuse in style, and abounded in periphrasis. Thus they spoke of "the gastric organ" where their successors talk of the stomach, and referred to brandy, in which they placed whole-hearted faith, as "the domestic stimulant." The brandy treatment, remarks Mr. Russell, whatever havoc it wrought on a patient's nerves, digestion, and circulation, conferred on him the advantage that when he grew to man's estate and passed from "that poor creature, small beer" to the loaded port and fiery sherry of a "wine" at the university it was impossible to make him drunk. He had, in fact, become quietly immunised. By no violent transition, but gradually and imperceptibly the medical profession has transformed its members into the type of to-day. It was not till the "seventies" were well advanced that the change became apparent. "The present doctor," says this critic of manners, "is as polite and gentlemanlike a young fellow as one could wish to meet," but his behaviour is not "courtly." He does not bow when he enters the room, but "shakes hands and says it's an A1 day and I had better get out in the motor." He has abandoned the majestic "we" which formerly the faculty shared with kings and editors. "We shall be all the better when we have had our luncheon and a glass of sherry," said Sir Tumley Snuffim. His successor says: "Do you feel as if you could manage a chop? It would do you pounds of good"; or "I know the peroxide dressing is rather beastly, but I'd stick it another day or two if I were you." Medical conversation, too, is an art that has greatly changed. "Tom Guy" (not an individual but a type) does not "lubricate" an interview, as his predecessor did, but goes straight to business—inquires, examines, pronounces, prescribes—and then, if any time is left for light discourse, discusses the British thoroughbred, or the rival merits of the two games of football, or delivers an emphatic verdict upon the latest play. Far otherwise did Dr. Parker Peps regale Mrs. Dombey, or Sir Tumley Snuffim soothe the shattered nerves of Mrs. Wititterly, and some may think that though we have discarded, and rightly, their charlatanism, we should be none the worse for some of their impressive demeanour, which assuredly had a suggestive influence.

ABDOMINAL CRISES IN DIABETES.

In the *Intercolonial Medical Journal of Australasia* for September Mr. R. M. Downes and Dr. R. A. O'Brien have reported two cases of diabetes in which an abdominal crisis occurred suggesting to three or four observers the necessity for operation. In the first case a well-nourished boy, aged 14 years, was admitted to the Melbourne Hospital in the early morning as a case of acute intestinal obstruction. His father stated that at 6.30 A.M. on the previous day he vomited and that he seemed unwell during the rest of the day. Towards the evening he complained of pain extending across the lower abdomen. This pain had increased up to the time of admission. For 36 hours neither fæces nor flatus had been passed, though the boy attempted to go to stool several times. Vomiting occurred three or four times during the day. About two hours before admission he became very restless with a vacant expression. He became duller, so that on admission he was only semi-conscious and unable to answer questions rationally. He had suffered from diabetes mellitus for 18 months. His abdomen was prepared for laparotomy, an enema was given with only a small result, and he was put on the table. He was very restless and uncontrollable. The temperature was 99° F. and the pulse was 160. The abdominal muscles were board-like all over; this was thought possibly to be volitional. Abdominal respiratory movement was absent; there was moderate distension and apparently some tenderness. Both flanks were dull. On the right cheek was a large furuncle. The tongue was dry, brown, and coated, and the face was flushed. Mr. G. A. Syme was about to operate when it was found that the urine contained a large quantity of sugar and gave the ferric chloride reaction for aceto-acetic acid. He therefore did not proceed. Sodium bicarbonate was given by rectal and intravenous injection and by the mouth. The bowels acted slightly. At first the patient improved but later the coma increased and he died on the following morning. At the necropsy the gastro-intestinal tract was found normal. The pancreas was atrophic and firm. In the second case a girl, aged 8 years, was admitted to the Children's Hospital, Melbourne, on Dec. 1st, 1908. She was suffering from glycosuria which disappeared under strict diet. On the 14th she was well and the urine contained no sugar, diacetic acid, or acetone. On the 15th she vomited several times and complained of paroxysms of abdominal pain. The urine contained diacetic acid and a trace of acetone. A high enema was given and was followed by a motion. In the evening she complained of pain over the right kidney which extended towards the labia. At 5 A.M.

on the 16th there were paroxysmal abdominal pain, constant vomiting, a pulse of 140, and a temperature of 99·4° F. The abdomen was generally tender and was dull to deep and light percussion below a convex line passing from the anterior superior spines of the ilium through the umbilicus; it was resonant in the flanks. The upper abdomen was slightly distended and the liver dulness was much diminished. There was no rigidity or lessened respiratory movement. The leucocytes in the blood numbered 50,000 per cubic millimetre. Acute intestinal obstruction causing auto-intoxication and acetonuria was diagnosed. She was seen by Dr. Maclaren and Dr. Cole, who concurred in the diagnosis and the necessity for operation. At 10 A.M. the pulse was 172, the temperature was 99·6°, there was incessant vomiting, and the abdominal signs were unchanged. But at 10.15 the abnormal abdominal dulness had disappeared and the child was semi-comatose. An abdominal crisis of unexplained origin in a diabetic subject was diagnosed. Bicarbonate of sodium was given by intravenous injection and by the mouth, and after 18 hours the urine became alkaline. Next morning she was bright and played with toys. The diacetic acid and acetone disappeared from the urine in ten days, but sugar returned on relaxing the diet. Similar cases do not appear to have been reported previously, but Grube has described in diabetes attacks resembling the gastric crises of tabes. The nature of the cases now recorded is obscure, but they show the necessity of examining the urine not only for sugar but also for diacetic acid and acetone in all acute abdominal cases. In the second case sugar was absent, though acetonuria was present.

LARYNGEAL TUBERCULOSIS.

WE have received a communication from Dr. Beverley Robinson drawing attention to the valuable information which may be derived from an examination of the larynx in cases of doubtful diagnosis of disease of the chest. He states that he has been able to make a positive diagnosis in this way, not merely of the intra-laryngeal condition, but also of that of the lungs. He further says: "I am confident that no physical exploration of the chest, no tests by means of tuberculins, or with the X rays, or by any other known method will afford in previously doubtful cases as much desirable and accurate knowledge to affirm positively a diagnosis as what is revealed to the experienced eye by means of the laryngeal mirror." Dr. Robinson is evidently an enthusiast on this method of examination. Whilst fully recognising his personal dexterity and knowledge of laryngeal conditions, we would point out that but comparatively few practitioners are able to obtain the experience necessary to enable them with unerring accuracy to make a diagnosis such as Dr. Robinson suggests. He forwards to us an article entitled "Clinical Notes on Laryngeal Tuberculosis," written by himself, which appeared in the *American Journal of the Medical Sciences* for August, 1908, in which this subject is dealt with in more detail. Attention is here drawn to the fact that the voice may be almost, if not entirely, normal at times, and yet there may be inactivity or slight paresis of one or both vocal cords; or there may be marked localised anæmia; or there may be slight congestion of one or both vocal cords in a limited area; or the arytenoids may be slightly infiltrated, and likewise the interarytenoid commissure. Dr. Robinson insists that these appearances are suspicious; indeed, he says, with a certain history they are more characteristic even than a little prolongation or harshness of the expiratory murmur at the apex of the lung or an indefinite dulness, "which is often nothing more than the result of the percussion note elicited by a finger from a relaxed or possibly corpulent chest wall." Dr. Robinson's remarks are certainly interesting and worthy of close attention, and doubtless examination of the larynx is not practised as much as it should be in suspicious cases of diseases of the chest.

THE MUSEUM OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE Council of the Royal College of Surgeons of England has added a special room to the museum for the display of various exhibits of historical interest. These were formerly scattered in different parts of the museum but have now been brought together by the museum committee and form a unique collection of interesting exhibits; many of them have not hitherto been on view. They include the body of the wife of one Van Butchell, which was embalmed by Dr. Cruikshank and William Hunter in 1775; the mummied body of a boy who died from plague in 1665, which was found in the crypt of St. Botolph's Old Church; the skin of the heads of three Macas Indians from Ecuador curiously preserved so as to contract to the size of a doll's head and at the same time to retain the features of a living individual; a collection of boots, shoes, and gloves worn by the Irish giant O'Brien; pieces of human skin which had formerly been found nailed to the doors of Worcester Cathedral and the churches of Hadstock and Copford in Essex; a chain and belt formerly used for the purpose of securing lunatics; a cast of the head of Deeming the murderer, who was hanged at Old Newgate in May, 1892; and an electrical machine used by Surgeon Birch about 1775, with a manuscript copy by his sister describing the cures said to have been effected by him with the machine. This makes an extraordinary ethnological cabinet.

BIER'S METHOD IN ACUTE GONORRHŒAL EPIDIDYMITIS.

IN the *Boston Medical and Surgical Journal* of Oct. 28th Dr. J. D. Barney has called attention to the value of Bier's method in acute gonorrhœal epididymitis. In some recent books strapping the diseased testicle with a piece of rubber bandage secured by a strip of plaster is recommended. A piece of thin rubber bandage about 8 inches long and 4 inches wide is used. To the middle of one end is stuck a piece of adhesive plaster 4 inches long and ½ inch wide. The bandage is drawn round the testicle to the proper degree of tightness and is secured with plaster, which must be placed above the greatest diameter of the testicle, otherwise the apparatus will slip off. It is said that if the directions are followed the bandage lies smoothly over the testicle, free from wrinkles, like the cover of a tennis ball. But Dr. Barney finds that it is impossible to attain this end with a single strip of plaster. The loose and elastic scrotal skin allows no such nicety of application, and the apparatus becomes rolled into a narrow strip at the base of the scrotum or slides downwards and falls off. By using two strips of adhesive plaster instead of one Dr. Barney has succeeded in making the plaster lie smoothly and tightly over the whole testicle. The piece of rubber described in the books he finds too short and much too narrow. The dimensions should be about 9 or 10 inches long and 6 inches wide, being altered to suit the size of the testicle. Neither strip of plaster should be long enough to meet completely round the testicle. This would produce a firm unyielding band which when the scrotum swells might be harmful. An interval should be left between the ends of each strap so that the swelling may proceed with only the yielding rubber to check it. The degree of tightness with which the bandage is applied is largely a matter of experience and of experiment in the individual case. If properly applied the bandage should cause no pain. The bandage is applied to the affected testicle with the patient standing

and is secured at the upper end with one strip of plaster. When the scrotum is released after the application a few wrinkles are bound to occur. These are obliterated by pulling downwards the free lower edges of the bandage. These edges are next approximated and overlapped more or less, so as to produce a snug fit, and are fastened by the second piece of plaster, which must be applied below the equator of the testicle; otherwise the whole apparatus will slide upwards. The whole testicle is thus enveloped in a smooth, tight, rubber bag, and a suspensory bandage is applied. As the apparatus causes profuse sweating the scrotal skin should be watched carefully for maceration or excoriation. This is prevented by a liberal coat of dusting powder applied daily before the bandage is readjusted. In the first 24 or 48 hours there is usually marked œdema of the scrotum with moderate cyanosis. The epididymis may show more induration and more enlargement, but it usually may be palpated with little or no discomfort—a great change from the previous extreme sensitiveness. The bandage may be applied even to the most tender testicle, but patience and gentleness are necessary. In the majority of the cases treated immediate and permanent relief was given. Patients scarcely able to walk because of the painful and tender testicle could walk easily and without pain and in most cases could resume work. The apparatus should be worn constantly, but readjusted daily until all acute symptoms have subsided and the induration and œdema have disappeared. This period may vary from a day to a week, after which the suspensory bandage alone should be worn until recovery is complete. Dr. Barney concludes that for the ambulatory treatment of epididymitis Bier's treatment is the most valuable method, but, as under all methods, there are occasional failures.

LEADLESS GLAZED CHINA AND EARTHENWARE.

THE beautiful specimens of leadless glazed ware which were exhibited this week at the Caxton Hall, Westminster, must have done much to remove from the minds of the visitors the impression that lead was an indispensable æsthetic constituent of pottery. In addition to numerous specimens of table and toilet ware, both of the inexpensive and finest kinds, examples of ornamental pottery and porcelain, artistic tiles, cooking utensils, fireclay, and other sanitary ware were shown. Determined to be practical, the organising committee arranged an exhibition illustrating the durability of the leadless ware, and submitted for inspection pieces of ware guaranteed to have been in constant use during a fair period of trial. The exhibition afforded us particular gratification, inasmuch as we got practical proof that lead could be abolished in the pottery trade for most practical purposes ten years ago, the report of our Commissioner appearing in THE LANCET of Jan. 7th, 1899. In spite of the adverse criticism which that report received we have now before us ample evidence that the cause of leadless glazes has considerably advanced, to the welfare, of course, of the operatives concerned in the pottery industry. Leadless glazed ware is now a practical success in most, if not all, directions.

MULTIPLE DIVERTICULA OF THE SIGMOID.

IT is quite remarkable how a pathological condition at one time regarded as excessively rare is found to be of no unusual occurrence when once attention has been directed to it. Very few cases of multiple diverticula of the sigmoid loop of the colon had been observed in this country until the appearance of a remarkable paper by Dr. W. H. Maxwell Telling which we published some time ago.[1] Dr. Telling was able to collect 80 cases and from the attention which this condition has received from pathologists on the continent in recent years one must infer that it is frequently observed abroad. The condition, although occurring most frequently in the sigmoid colon, may be found in the descending colon and also may extend to the small bowel. A multitude of small herniæ of the mucous membrane, varying in size from a pea to a walnut, become extruded on the surface of the bowel—often within the appendices epiploicæ or the attachment of the mesentery. The cause of the condition is most obscure. The subjects of it are usually over 50 years of age and are often very fat. Dr. Telling found that the condition gave rise to no symptoms in a large proportion of cases. In other cases perisigmoiditis occurs.

[1] THE LANCET, March 21st, 1908, p. 843.

THE Lord Lieutenant of Ireland has appointed Sir William John Thompson, M.D., to be Registrar-General of Ireland in place of Sir Robert E. Matheson, LL.D., whose term of office expires on Dec. 1st.

PLAGUE is still increasing in Mauritius. A telegram from the Governor to the Secretary of State for the Colonies has reported 56 cases with 27 deaths during the week ending Nov. 19th.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Nov. 26th, 1831.

SPEEDY PASSAGE OF A PIN.

A young lady, while changing her dress, put some pins into her mouth, one of which she swallowed. The pin stuck in the œsophagus, but could not be seen or felt. She was greatly terrified and complained of acute pain behind the trachea, and said "the pin was making its way through." I forced it into the stomach with a probang, and she became at once relieved. Previous to my arrival at the house, her sister had given her a dose of castor oil, which affected the bowels freely the following morning, and the pin passed through the intestinal canal in *fourteen hours* from the time of the accident!

There is necessarily great alarm excited by the occurrence of such accidents, accompanied by great anxiety on the part of the patient and friends with respect to the constant administration of purgatives; but in my opinion, it is better to watch the case closely and combat any untoward symptom that may arise, and leave the rest to nature. (A case contributed by Richard Corbett, M.D., Inneshannon, County Cork, dated Nov. 3rd, 1831.)

Philo-Medicus complains of the great hardship and injustice towards the apprentices of apothecaries and chemists and druggists from the practice, now so generally pursued, of keeping the shops open until 11 and half-past 11 o'clock at night; and he recommends that there should be a general arrangement between the masters to close the dispensaries and shops at an earlier hour, in order that assistants and apprentices might have sufficient time for study and rational recreation. If such an arrangement *were* entered into, the spirit of competition would quickly dissolve the bonds of such a union.

ROYAL METEOROLOGICAL SOCIETY.—At last week's meeting of the Royal Meteorological Society the President announced that the council had awarded the Symons gold medal to Mr. William Napier Shaw, D.Sc., F.R.S., in recognition of the valuable work which he has done in connexion with meteorological science. The medal will be presented at the annual general meeting of the society on Jan. 20th, 1910.

THE STANDARDISATION OF DISINFECTANTS.

WITH SPECIAL REFERENCE TO THE DISINFECTANT PREPARATIONS COMMONLY SOLD TO THE PUBLIC.

A CHEMICAL AND BACTERIOLOGICAL INQUIRY.

SECTION III.

GENERAL SUMMARY AND CONCLUSIONS.

PART I.—*Chemistry.*

WE have now recorded the chemical composition of a number of tar disinfectants as determined by what we have called THE LANCET Acetone-Baryta method (L.A.B.).[1] And we have also presented the results of bacteriological examination conducted under conditions of laboratory practice[2] (Table XXIV.[3]). Before we discuss the question as to how far we are able to apply these results as a basis of calculation to practical conditions of disinfection, we may first refer to an interesting relation which appears to exist between the carbolic coefficients found by bacteriological experiment and certain chemical factors. In Table I., published in the first section of the report which deals with the chemical analysis of disinfectants, col. 1 contains the percentage weight of phenoloid body found, while col. 2 gives the carbolic equivalent of this weight according to bromine value, reckoning that 94 parts by weight of carbolic acid correspond to 480 parts by weight of bromine in accordance with the equation, $C_6H_5OH + 6\,Br = C_6H_2Br_2OH + 3\,HBr$. In Table XXV. the weight of phenols (col. 1) and their bromine value (col. 2) in terms of absolute carbolic acid are reproduced. In the same table the mean carbolic coefficients determined by bacteriological experiment in which the bacillus coli was the organism chosen are given in col. 5.

TABLE XXV.

Disinfectant.	1 Phenols or phenoloids (P).	2 Carbolic acid equivalent by bromine (B).	3 Br. equivalent deducted from actual weight of phenol (P-B).	4 $\frac{P-B}{3}$	5 Carbolic coefficient (bacillus coli), mean.
Cofectant	66·27	38·30	27·97	9·30	9·8
McDougall's M.O.H. Fluid	47·13	22·71	24·42	8·1	7·9
Kerol	40·56	17·23	23·33	7·7	7·7
Okol	48·50	27·44	21·06	7·0	8·9
Crude Carbolic	82·65	61·65	21·00	7·0	4·2
Bactox	39·70	19·30	20·40	6·8	9·5
Cyllin (bulk sample)	40·41	20·16	20·25	6·7	8·8
Cyllin (Medical)	32·08	12·79	19·29	6·4	6·4
Calvert's No. 5 Carbolic ...	93·26	74·09	19·17	6·3	2·5
Izal	41·35	25·48	15·87	5·2	7·4
Lysol	50·96	40·45	10·51	3·5	1·7
Lawes'	28·20	18·08	10·12	3·3	1·6
Pearson's	20·70	12·73	7·97	2·6	2·2
Jeyes' (Chemists')	17·80	11·50	6·30	2·1	1·7
Krysyl	14·16	9·87	4·29	1·4	1·3
Zotal	10·00	6·70	3·30	1·1	1·5
Jeyes' No. 2 (Grocers') ...	5·13	1·87	3·26	1·0	0·75

It soon appeared that as the difference between the figures in col. 1 and col. 2 widened so the carbolic coefficient found by bacteriological experiments was higher. It is obvious that if the phenol body present in the disinfectant should be carbolic acid itself, the bromine value (col. 2) would be identical with the weight of phenol found (col. 1). As will be seen such was never the case, and so the conclusion is reached that none of the disinfectants examined contained carbolic acid.

If next the percentage bromine value in terms of carbolic acid is deducted from the percentage weight of phenoloid bodies found, a series of figures is obtained which produce, with few exceptions, the order of germicidal values as determined by bacteriological experiment. The chemical figures, at all events, agree with the bacteriological figures as to differentiating the feeble from the strong germicidal preparations. When further these results are divided by a common denominator—e.g., 3—a quotient is obtained which coincides in the majority of cases with the carbolic coefficient found when the bacillus coli was selected as the organism in bacteriological experiment. Possibly with another denominator a formula might be obtained giving the carbolic coefficient for any organism. In the present examples the formula $\frac{P-B}{3}$ gives the carbolic acid coefficient for bacillus coli, in which P is the actual percentage weight of phenol bodies found and B the percentage of carbolic acid found, calculated upon the amount of bromine absorbed. On the face of these results the bromine value of a phenolic body under the conditions of experiment would appear to be an index of its germicidal power, and the carbolic coefficient, whether it is found by chemical or bacteriological processes, comes to the same figure. There are, however, apparent exceptions to this formula if we consider the examples of crude carbolic acid—"Calvert's No. 5 Carbolic Acid," "Lysol," and "Lawes' Fluid" given in the table (XXV.). But it is certainly remarkable that these preparations, which form the exceptions, do not produce emulsions with water in the way that the rest do, and the solutions do not exhibit the Brownian movement. It is also remarkable that in these exceptions the formula $\frac{P-B}{3}$ gives an indicated value approximately double that found by bacteriological experiment. In these cases it would appear, therefore, that chemistry assigns, assuming there is value in the calculation at all, a greater activity to these disinfectants than bacteriological experiments will allow. It is possible that chemistry is here indicating a germicidal attainment which is not realised in bacteriological experiments because of the particular physical condition of the fluids (solution). It is well known, at any rate, that the activity of many chemical agents is increased by combining them with certain constituents so that with water the whole forms an emulsion. Advantage of this is taken, for example, in certain industrial bleaching processes in which the article is treated with a mixture of stearine (previously made into an emulsion or saponified) and hydrogen peroxide, sulphurous acid, or other bleaching agent. The bleaching bath is made to contain from 5 to 15 per cent. of the stearine emulsion, together with sufficient of the bleaching agent to effect the removal of colour, and the temperature is kept at about 86° to 104° F. The rapidity of the process apparently depends upon the stearine acting as a carrier and bringing the particles of the reagent into close contact with the colouring matter of the fibres. If our deductions are right there would appear to be some analogy here between bleaching and disinfection, and it will be observed that the bleaching agents, hydrogen peroxide and sulphurous acid, are germicides. The emulsion brings into play the full activity of the bleaching agent, and the same may be true of the germicidal agents (when they are tested under favourable conditions) contained in disinfectants which form emulsions when mixed with water.

There is a suggestion that the bacteriological activity of a chemical agent is better realised in emulsions than in solutions. Hence "Lysol," which is a 50 per cent. clear solution of cresylic acid in soap, or an aqueous solution of carbolic acid, both show a relatively weak germicidal action because in solution the full activity of the agent is not appropriated, and chemical analysis indicates potentialities which fail, however, to exert their full effect on the organisms, because there is not that continual bombardment which is kept up by the Brownian movements of an emulsion. Lord Lister long

[1] THE LANCET, Nov. 13th, 1909, p. 1454.
[2] THE LANCET, Nov. 20th, 1909, p. 1516.
[3] In this table Sanitas Fluid was inadvertently classed among tar disinfectants.

ago pointed out, it is interesting to remember, that a solution of carbolic acid in oil had little or no antiseptic power, and his observations were confirmed by Koch. It would thus appear to be an advantage when it is the fact that a disinfectant of the tar class shows, upon dilution with water, a constant state of movement which is not the case when phenol bodies are dissolved in a clear fluid. The emulsions give the full active value of the phenol bodies present; the solution may not, except possibly when it is heated, by which its molecular movement is accelerated. Chemistry may possibly indicate, therefore, what the maximum bacteriological value under ideal conditions can be—a value, however, which is only realised when the phenol bodies travel rapidly through the fluid, as in the case of an emulsion. A low bromine figure under the conditions of experiment indicates, for reasons not yet made clear, high bactericidal potentiality which may be exerted fully when the phenol particles are conveyed rapidly to the organism by myriads of oily travellers. Chemistry suggests the germicidal potentials of a disinfectant, and it is for bacteriology to tell us how far these potentials are realised under varying conditions.

The chemical results suggest the desirability of submitting the various phenolic bodies employed in commercial disinfectants to careful extended chemical examination with the view of unfolding their individual chemical characteristics. So far we have only attempted a differentiation of them by one method which was directed to determining their bromine substitution value. This value certainly appears to have some relation to germicidal value, but a further differentiation is needed which would no doubt give more light upon this point. The fact that varying bromine values are obtained for phenol bodies isolated from different disinfectants proves that we are dealing with different chemical entities each possessing its own germicidal value just as do corrosive sublimate, bleaching powder, peroxide of hydrogen, chinosol, or other definite chemical agents. The fact that certain disinfectant preparations on the market consist of a well-defined chemical substance excluded them from the terms of reference of the present inquiry.

It would be of interest to know what it is that bromine displaces in phenoloids, whether it is the hydrogen of the hydro-carbon group or of the hydroxyl group, whether possibly the presence or absence of hydroxyl determines germicidal power, or whether and how far the bromine may have oxidised CH_3 groups in such bodies as the cresols. Apparently it is that phenol body which admits least of its hydrogen being displaced by bromine, which is the most powerful germ destroyer. A knowledge of the constitution rather than the composition of the substance would probably supply the explanation of this circumstance, and fresh inquiry will be usefully turned in this direction.

Another very important question to be decided is the adaptability of the various disinfectant preparations to environment. In practice it is obvious that in a large number of cases the disinfectant has not only disease organisms to deal with but organic complexes also, which are calculated to discount the germicidal power more particularly of the emulsified preparations. We have already referred to some experiments; and we have made a few experiments on the subject ourselves, which showed that organic particles have the power of adsorbing the particles of the emulsion, in consequence of which the germicidal value of this class of disinfectant (emulsion) is considerably reduced. Apparently this reduction of germicidal power holds good, not so much for phenol solutions as for emulsions, so that in the presence of indeterminate organic matter (soluble or insoluble) the energetic germicidal action due to an emulsion is sacrificed to a large extent. Organic matter presents an obstruction, so to speak, to the rapid passage to and fro of the agent through the fluid. This fact depreciates the value of the emulsion preparations, and since in most cases they are employed to disinfect, not naked organisms in distilled water, but organisms present in an excess of indeterminate organic matter, it may ultimately be proved by bacteriological experiment that under the conditions of practice emulsions offer no advantages over clear solutions. It must be borne in mind that so far the results of our bacteriological experiments relate only to the testing of emulsions under conditions presenting no interfering agencies.

If bacteriological analysis, made under conditions approaching those met with in practice, should ultimately prove that the germicidal power of an emulsion is reduced to that of carbolic acid itself, the chemical analysis of the disinfectant will obviously assume further importance. After all, the emulsions have only received the award for high efficiency because they were tested under the non-depreciatory conditions of bacteriological experiment instead of under the depreciatory conditions of practical disinfection. We have also to consider the question of the incompatibility of certain emulsions with salt water, hard water, and so forth. We have made some experiments in these directions, the results of which we hope to report at some future date. Salt and chalk are obviously de-emulsifying agents, and when these are met with in practice they would lead to germicidal deterioration, the value of the disinfectant then simply depending upon the kind and amount of disinfectant substance present, the emulsion having been destroyed.

Some of the disinfectant preparations we found withstood mixing with salt and hard waters better than others. Those, for instance, which are emulsified without the use of soap or resins are compatible with salt or hard water. On the other hand, extreme dilution with hard or salt water of those disinfectants emulsified with soap resulted in the separation of the phenol bodies and neutral oils on standing. To the former the depreciating effect of organic matter still applies; with the latter both organic matter and hard or salt water tend to break up the emulsion, in which case the chances of the germicide coming into intimate contact with the organism are reduced. Here, again, an emulsion would give an exaggerated value in theory but an ordinary value only in practice. The fact that bacteriology under ideal conditions overstates the case from a practical point of view is one of the reasons why chemical analysis has fallen into disrepute. It is held that the emulsions showed increased germicidal efficiency which had no relationship to the amount of germicide present. That appeared to be so when the tests were made under laboratory conditions, but practical considerations indicate that probably in most, if not in all, cases the activity of the emulsion is greatly reduced, as during its service it naturally encounters filth of all kinds. We hope as time and opportunity serve to investigate further these and other important features of the question and to bring the results before our readers at some future date.

PART II.—*Bacteriology.*

The bacteriological test as applied in our series of experiments has brought out an order of merit for the tar disinfectants the broad features of which may be accepted unconditionally, though we do not claim for this order absolute accuracy and finality. This order coincides in most cases very closely with that founded on their chemical composition. When any marked deviation from the parallelism of chemical composition and germicidal power can be demonstrated some difference in physical properties—fineness of emulsion, say— is usually a marked feature.

In regard to this parallelism it must be borne in mind that the bactericidal and chemical results were arrived at quite independently and in different laboratories, and only when the two sets of figures had been obtained were they brought alongside one another and compared. How remarkable is the coincidence may be seen on reference to Table XXVI. The chemical analysis as now carried out affords definite evidence of the presence of a certain proportion of active germicidal substance, certain phenolic compounds, in the tar disinfectants—i.e., it affords evidence that the potent agents are actually present in the disinfectant and in certain proportions; but it cannot do more than suggest how far the germicide present is effective—i.e., how far it is able to do its work under the conditions in which it has to act.

The bacteriological results are so consistent throughout that we have little hesitation in putting them forward as affording an accurate indication of the germicidal power of the disinfectants we have tested. We are fully satisfied on this point, although in our investigation we have not found such high coefficient figures as have been given by other observers. Neither with the Rideal-Walker method nor with the modification we have made use of have we *under any*

conditions obtained carbolic acid coefficient figure higher than 13. In this connexion we wish to draw special attention to the fact that in our tables the figures obtained check one another most closely, so that the intermediate figures, though not called upon to provide any direct information, are of considerable value in building up the general picture of results. We have already explained that we have calculated the carbolic acid coefficient by taking a correspondence between the killing power of carbolic acid and that of the germicide, being tested at any point in a 15 minutes' period where the two happen to coincide in killing the test germ.

Singly, some of the modifications of the Rideal-Walker test appear to be almost trivial, but combined they make possible a much more thorough examination and accurate determination of the germicidal power of any disinfectant to

TABLE XXVI.—*Showing the Comparative Cost of 100 Units of Germicidal Efficiency of Certain Commercial Tar Disinfectants, reckoned from the Carbolic Acid Coefficiency and the Price per Ounce, in Pence.*

Disinfectant.	Contents of bottle in fluid ounces.	Advertised price, in pence, of bottle.	Cost, in pence, per ounce.	Price ratio to carbolic acid taken, at 1s. 4d. per pound = 1d. per ounce.	Germicidal ratio to carbolic acid = the carbolic acid coefficient.	Comparative cost, in pence, of 100 units of efficiency = $\frac{\text{price ratio to carbolic acid}}{\text{germicidal ratio to carbolic acid}} \times 100$.
SANITAS-BACTOX	11	12	1·09	1·09	9·5	$\frac{1·09}{9·5} \times 100 = 11·5$
MCDOUGALL'S M.O.H. FLUID	4	4	1·00	1·00	7·9	$\frac{1·00}{7·9} \times 100 = 12·6$
COOK'S COFECTANT	8	10½	1·31	1·31	9·8	$\frac{1·31}{9·8} \times 100 = 13·4$
SANITAS-OKOL	10	12	1·2	1·2	8·9	$\frac{1·20}{8·9} \times 100 = 13·5$
CRUDE CARBOLIC ACID ...	10	6	0·60	0·60	4·2	$\frac{0·60}{4·2} \times 100 = 14·3$
CYLLIN	9	12	1·33	1·33	8·8	$\frac{1·33}{8·8} \times 100 = 15·0$
IZAL	4	6	1·50	1·50	7·4	$\frac{1·50}{7·4} \times 100 = 20·3$
KEROL...	7	12	1·71	1·71	7·7	$\frac{1·71}{7·7} \times 100 = 22·2$
ZOTAL...	32	12	0·37	0·37	1·5	$\frac{0·37}{1·5} \times 100 = 24·7$
KRYSYL	20	10½	0·52	0·52	1·3	$\frac{0·52}{1·3} \times 100 = 40·0$
CYLLIN (Medical)	4	12	3·00	3·00	6·4	$\frac{3·00}{6·4} \times 100 = 46·9$
CALVERT'S No. 5 CARBOLIC ACID	8	12	1·50	1·50	2·5	$\frac{1·50}{2·5} \times 100 = 60·0$
LAWES' FLUID	6	6	1·00	1·00	1·6	$\frac{1·00}{1·6} \times 100 = 62·5$
PEARSON'S ANTISEPTIC ...	8	12	1·50	1·50	2·2	$\frac{1·5}{2·2} \times 100 = 68·2$
JEYES' (Chemists')	10	12	1·20	1·20	1·7	$\frac{1·2}{1·7} \times 100 = 70·6$
LYSOL	8	12	1·50	1·50	1·7	$\frac{1·5}{1·7} \times 100 = 88·2$
CARBOLIC ACID (Pure) ...	16	16	1·00	1·00	1·00	$\frac{1·00}{1·00} \times 100 = 100·0$
JEYES' No. 2 (Grocers') ...	10	12	1·20	1·20	0·75	$\frac{1·20}{0·75} \times 100 = 160·0$

from the data obtained from the two extreme points of our curves, but even a casual examination of the tables will enable anyone accustomed to the examination of such curves to see the importance of the intermediate points as controls. The mean we have used seems to us to be a much more satisfactory figure by which to represent the relative germicidal activity of a disinfectant than the arbitrary figure obtained

be tested. For example, without the sterilising apparatus we describe it would be impossible to make the number of dilutions we use unless a very large amount of skilled assistance were constantly available. Without this apparatus, too, it would have been equally difficult to use the larger amount of seeding material which gave us our more regular results. The platinum spoons used in place of the

needles or öse were the outcome of a large number of experiments made with the object of satisfying ourselves that the quantities taken up in these spoons, although always at least three times as great as those taken up by the ordinary loops, never bear too great a proportion to the 10 cubic centimetres of the McConkey's medium into which the bacilli, after being treated with the disinfectant, are introduced.

How regular these results are will be seen in examining the curves where very few growths appear out of the order in which they might be expected. Were these curves, occurring in the course of a biological experiment, absolutely perfect, not only should we look upon them with suspicion but we should feel that others had a right to do the same. As it is, the intercurrent accidental result acts rather as a control or check on the rest of the figures inserted in the table, this being especially evident where the bacillus coli communis is used, an organism we have employed in preference to all others because (1) the carbolic acid coefficients obtained when this non-pathogenic organism is used as a test correspond very closely with those obtained when the pathogenic bacillus typhosus is employed for the same purpose; and (2) it gives with McConkey's bile-salts glucose broth a definite reaction easily recognised with the naked eye, and no microscopic examination is necessary to determine that we have a growth of the specific organism that was introduced, whilst any accidental contamination with other organisms occurring in the secondary tubes is readily detected, also without any microscopic examination.

At present disinfectants are valued and bought according to their carbolic acid coefficients by Government departments, municipalities, and public and private bodies, and so long as this is the case—i.e., until a better and more reliable standard is obtained—the factor on which price will be based is this carbolic acid coefficient. According to our results, the price per 100 units of germicidal power would work out as in Table XXVI.

It must be distinctly understood, however, that these comparisons as regards the germicidal activity of the various disinfectants can be accepted as reliable only under the conditions of experiment adopted by us, these necessarily being of the simplest and most limited character. Such comparisons must, however, be made and deductions drawn therefrom before any further advances can be made, as germicidal activity must necessarily be taken as the basis of disinfection whatever other factors may ultimately have to be introduced.

As a matter of fact, when we come to deal with the actual process of disinfection it would appear that the physical conditions are on no account to be neglected. So far as we have been able to gain any evidence from the small number of experiments, chemical, bacteriological, and microscopical, on these various disinfectants, it appears that those in solution, as stated above, are most affected by temperature and least by other physical conditions, and that unless they are precipitated from their solutions or locked up by chemical combination with other substances they are the most stable and equable germicides at present at our disposal. Our experience is that with any rise of temperature disinfectants in solution become more potent as germicides. The same holds good of tar emulsion disinfectants, but from the fact that the carbolic acid coefficient falls with a rise of temperature it must be accepted that the rise is not so marked as in the case of the solution. This raises questions of great importance in connexion with the problem of practical disinfection, which, however, must be left for future and fuller consideration and investigation.

In a few preliminary experiments carried out on known bacteria (B.C.C.) introduced into fabrics the disinfectant results have not been of the same order as in the simpler germicidal experiments, the organisms protected by the threads, &c., of fabrics withstanding the action of the emulsified disinfectant much more and for a longer time than that of the disinfectant in solution. We mention these facts merely to indicate that the question of practical disinfection is by no means so simple and easy of solution as is the question of germicidal activity. This, of course, has been insisted upon by those who have worked at this question, and it may be that ultimately the disinfectants when tested under more practical conditions may have to be arranged in an order very different from that given in our tables, but we believe that, so far as the emulsions, at any rate, are concerned, those which contain the highest quantity of phenoloids brought into the finest state of division, and having least tendency to combine and remain combined with albumins or with lime or other substances in solution in the materials to be disinfected, will be found to be the most efficient.

It is unfortunate that in all bactericidal tests as at present performed the figures obtained convey no real idea of the disinfecting work under natural conditions of which the substance is capable; these figures give merely a comparison, bounded by narrow conditions, between the germicidal power of phenol and that of the disinfectant under consideration, whilst we know practically nothing of what this germicidal power of phenol really is when applied to disinfection under these natural conditions. To deal with practical problems it seems clear that this latter question must be first decided, and this will mean extensive investigations on the modifying factors involved in practical disinfection. When we are able to say that the temperature at which disinfection is to be carried out will modify the necessary strength of the dilution by multiplying or dividing by a given figure for each degree above or below that taken as the standard; when we are able to refer to similar figures to modify our coefficient, representing each type of organism to be destroyed, the type of surrounding conditions in which it is found, the type of material to be disinfected and its surface, soft, hard, irregular, or spongy, that soak up fluids or repel them and the like; when we are able to modify the figures according to the physical and chemical nature—emulsion or solution—of the diluted disinfectant, to allow for the influence of the diluting fluid—hard or sea water or water containing organic matter; when such points as these are cleared up and tables of figures obtained to which reference may be made and the coefficient figure modified in accordance with the required conditions, then and then only will it be possible to use such narrow standard tests as those we at present utilise as a definite foundation on which to base the solution of the problems of practical disinfection.

The two sets of data that will be required are:—Firstly, a figure representing the dilution of the disinfectant which will sterilise a standard amount of a culture containing a standard number per cubic centimetre of a standard organism in a standard time. Secondly, reference tables giving a series of figures which can be used to multiply or divide the figure representing the strength of the dilution found above, so that it may be brought into line with the conditions under which it will have to perform its work. With such a series of factors and their influence before them the makers of disinfectants would be able to state definitely in their printed instructions what strength should be used for each purpose and to suggest what modifications would be necessary under any given set of conditions.

We believe that it is along these lines that future research should be pursued, and that until these details are forthcoming it is, and will be, impossible to determine what dilutions may be used, safely and economically, to attain effective disinfection under the varying and varied conditions met with in practice.

CONCLUSIONS (CHEMICAL).

A.—The evidence as regards a physico-chemical standard suggests, in the case of, at any rate, most of the tar disinfectants used for general purposes—that (1) the disinfectant should contain a reasonable amount of active bodies, e.g., phenols or phenoloids, and (2) that the dilutions with water should exhibit Brownian movement, in other words, should form a satisfactory emulsion.

B.—There is no objection to disinfectants of varying qualities being sold to the public, but it is desirable that price should be commensurate with quality, which, as will be seen from Table I., is not always the case. There can be no praise awarded to a phenolic or tar disinfectant which, when tested bacteriologically under what may be termed ideal conditions, shows an indicated germicidal value less than that of carbolic acid itself. In chemical terms $\frac{P-B}{3}$ should be over unity, and that condition should be associated with the fact that the disinfectant produces a satisfactory emulsion with water. A consideration of the results of analysis of a number of disinfectants commonly supplied to the public and of the prices charged for them shows that

manufacturers can supply, presumably at a reasonable profit to themselves, 100 units of phenolic body at a retail price varying from sixpence to a shilling having a carbolic coefficient varying from 5 to 9.

As we have shown, the value $\frac{P-B}{3}$ can be rapidly determined by chemical analysis, the estimation of soaps, resins, and neutral oils being of little consequence. Certainly the method quickly brings to light the ineffective article, and distinguishes further the feeble from the strong.

C.—We put this formula forward as a possible useful guide to the differentiation of tar disinfectants, but further work is needed on the subject before we can make quite certain of the validity of the proposal. There is here, at any rate, a set of experimental results which distinctly suggests that chemical and germicidal action under the most favourable conditions are analogous, and the bromine-combining value of a phenoloid appears to give a clue as to the power of that body to kill organisms.

CONCLUSIONS (BACTERIOLOGICAL).

A.—The Rideal-Walker method of testing disinfectants certainly gives accurate information under well-defined and strictly limited conditions, but results that can be set down in definite black-and-white figures are exceedingly difficult to obtain.

B.—The modifications of this method utilised in our work, while rendering the test less liable to aberrant results, ensure a clearer and more expanded picture of the germicidal power of a disinfectant than has hitherto been obtained.

C.—There can be no doubt that the coefficients as given in Table XXIV. indicate that the various disinfectants sold to the public have very different germicidal values; this doubtless is associated with the proportion of the germicidal chemical agent present and the physical conditions under which it exists.

D.—It is obvious that measured by such a standard certain of the disinfectants now on the market must have a relatively small, and in some cases very small, germicidal value.

E.—Never in our investigations having found such high carbolic acid coefficient figures as have been given by other observers to certain disinfectants, we are of opinion that many have had claimed for them an exaggerated value, when compared with carbolic acid, which is by no means justified.

F.—Results obtained in such bacteriological experiments as those we have carried out, although giving a germicidal value to a disinfectant acting under the most favourable conditions, afford little indication of their germicidal value when used in practical disinfection.

G.—It is evident, then, that much remains to be done in the solution of such problems, amongst others, as arise in connexion with (1) the presence of foreign substances in the material to be disinfected; (2) the temperature at which the disinfecting process is carried on; (3) the fluid with which the disinfectant is diluted—hard water, soft water, sea water, &c.; (4) the type of micro-organism that has to be destroyed in the process of disinfection; (5) the nature of the substance and the character of the surface of the material to be disinfected; and (6) the duration of the disinfecting process.

H.—Only when the influence of such factors as the above have been determined will it be possible to modify any standard coefficient figure, and thus obtain data for the preparation of effective and economical dilutions to be used in meeting the various problems of disinfection.

SIDLAW SANATORIUM.—A meeting of the donors and subscribers to the Sidlaw Sanatorium was held in the Burgh Court Room, Dundee, on Nov. 17th. The town clerk intimated the resignation of eight directors. Professor D. MacEwan proposed that the retiring directors should be asked to postpone their resignations until the matter had been gone into, and that a committee consisting of the directors and subscribers should be appointed to report fully on the whole matter. Notwithstanding the present position of affairs and that the deficit was equal to £40 a month, provided that some attempt was made to get additional subscribers, he thought that it would be possible to continue the institution. He suggested that a conference might be held with the directors of the Royal Infirmary *re* the question of receiving tuberculous surgical cases of children into the sanatorium. It was ultimately agreed to call a public meeting on an early date.

SOME CONSIDERATIONS OF MEDICAL EDUCATION.

V.[1]

The Reform of the Curriculum.—Instruction without Examination.—Various Schemes for Arrangement of the Curriculum.—The Educational History of 1111 Qualified Men.

IN May, 1905, an important debate again ensued in the course of the proceedings of the General Medical Council upon the question of the possibility of including certain subjects in the medical curriculum without requiring examinations on them, the debate arising out of the report of the Education Committee of the Council upon the subject. The Education Committee reported that it had endeavoured without much success to obtain the information which had been requested on the whole matter by the Council; that certainly there were subjects, such as vaccination, ophthalmology, mental diseases, and infectious diseases, which formed part of the compulsory curriculum, but in which no special examinations were held, although pupils knew that questions might be asked upon them; and that there was no country in Europe where the certificate of a professor or teacher is taken by a faculty of medicine in lieu of examination.

Dr. Mackay desired to remit to the Education Committee, later amended to a committee of the Council, to prepare and present a detailed report upon the system of examination in medicine followed in other countries, with the special object of determining the number of professional examinations demanded, the subjects included in these examinations, and the value, if any, attached to the records of class attendance and work. The Council, however, rejected the motion, and the ingenious method of rearranging the curriculum by omitting from the test of examination subjects in which the students might be considered to be hall-marked by their teachers was thus shut down upon. Undoubtedly such a scheme has many risks, but Dr. Mackay's proposal might have been found not to differ very much from methods in practice if any committee of the Council had had time and opportunities to make the wide investigation which he advocated. But such an investigation would have had to be very thorough before its results would have justified the Council in a dashing departure.

The late Dr. Lindsay Steven, one of the best and most practical authorities on medical education in the General Medical Council, and one whose death was much deplored by his colleagues, proposed a motion:—

That it be remitted to the Education Committee to consider and report to the next session of Council whether the adoption by the Council of one or other or both of the following resolutions would not help to secure the attainment of the object the Council had in view in instituting the five years' curriculum, viz.: (1) That the preliminary scientific examination in physics, biology, and chemistry should be passed before the student begins the qualifying study of anatomy and physiology; (2) that before being admitted to the final examination the student should produce evidence that he has devoted the last year of his curriculum exclusively to practical and clinical work and study.

The Education Committee of the Council had these questions under consideration for some time and finally reported that the operation of the first resolution might have the effect of causing an undue amount of time to be devoted to the preliminary sciences, with two possible subsequent results. "Either the student," the report ran, "will be tempted to crowd the rest of his study into the remaining two or three years, as the case may be, of the five years' curriculum, a course to be seriously deprecated, or he will be compelled to take one or more additional years. The committee is of opinion that the main effect of the proposed change would

[1] Nos. I., II., III., and IV. were published in THE LANCET of Oct. 23rd (p. 1232) and 30th (p. 1301), and Nov. 13th (p. 1459) and 20th (p. 1531), 1909, respectively.

be to seriously lengthen the curriculum and thus to render entrance to the profession more difficult and expensive than it now is." As things now are the curriculum is far more often one of six or even more years—and this even in the case of industrious students—than one of five. The committee noted that the proposal did not contemplate the transference of the subjects it deals with to the preliminary course of study, which would withdraw from the Council the direct supervision of the arrangements for teaching them, nor did it seek to enact any special provision, the natural sequence of such a transference, for determining the length of the curriculum subsequent to the completion of the examination in chemistry, physics, and biology.

With regard to the second resolution, the committee considered that distinct evidence of clinical and practical study in the fifth year should be produced by the student, showing that his time in that period of his curriculum had been mainly occupied in such work, but it would not suggest any regulation which should absolutely limit the work of each session of the period of professional study. It reminded the Council that the present recommendation is to the effect that regulations should be so framed that attendance on systematic courses may be concluded at the end of the fourth year of study, and while agreeing with this, the Education Committee would not advise that any proposal should be sanctioned which would prevent a student from supplementing his clinical study by suitable systematic work. The committee held that this resolution also would tend to lengthen the medical curriculum.

The debate which followed on this report showed that the Council felt the danger of thus attempting to divide the medical curriculum into watertight compartments, and every teacher or examiner of experience must agree with this view. On the whole it is better that the student should finish with his preliminary scientific subjects before tackling the professional studies of anatomy or physiology. Similarly, on the whole it is better that the last year of the student's course should be occupied in clinical work, familiarity with which is after all the object of his education. But it would be wrong to make such an arrangement of the student's time compulsory upon him. There are students of different circumstances, students of different equipment, and students of different powers of learning, and some amount of elasticity must be permitted in the curriculum to meet such varying requirements.

But the debate on Dr. Lindsay Steven's double-barrelled motion led immediately to an interesting motion by Sir Henry Morris in the following terms:—

> That it be referred to the Education Committee to consider and report to the Council (1) as to the desirability of transferring the preliminary science subjects—physics, biology, and chemistry—from the curriculum of medical studies to a stage preliminary to the commencement of the curriculum; (2) as to the advisability of requiring a five years' period of study even after removing from the curriculum these preliminary scientific subjects.

This motion was a bold recognition of the fact that the majority of medical students do not obtain their qualifications after five years only of study, but that, on the contrary, the curriculum is really one of six, or more than six, years. Sir Henry Morris advocated his motion in a strong speech based upon personal knowledge, in which he deplored the demands made upon the time of the medical student by purely scientific teachers. But the report of the Education Committee, upon a remit, was unfavourable to the first suggestion and postponed consideration of the second. It was clear, as the committee pointed out, that the proposal to transfer the study of physics, biology, and chemistry to a stage preliminary to the commencement of medical education proper (i.e., of the medical curriculum) involved important questions as to the standard at present reached in the secondary schools of the country; while the committee might have added that in such a country as Ireland where no facilities exist at secondary schools for the teaching of elementary science, the innovation would have borne very hardly. A special committee of the Council had drawn up in 1904 new syllabuses for the guidance of examining bodies in the subjects of chemistry, physics, and biology, and considered that the effect of these syllabuses upon the educational course in its present shape ought to be given due trial.

We must make further reference to the subject of science teaching in secondary schools, for Sir Henry Morris here introduced a subject of the very greatest importance to many of the best educational institutions in the country, and it is certain that the attitude and opinion of the science masters in the public schools will have to be taken into consideration by the Council. For the time, however, his scheme for the readjustment of medical studies failed to find favour with his colleagues. But the reiteration of plans for the arrangement of the medical curriculum marked the sense of the Council that the present state of affairs was unsatisfactory, and at the next session Sir John Batty Tuke came forward with a plan for a new grouping of the medical curriculum. He asked the General Medical Council to make it a requirement in regard to professional education that all the subjects should be divided into two main groups, one comprehending physics, chemistry, elementary biology, anatomy, and physiology, and the other comprehending all the other subjects; and further, that no licensing body should recognise instruction in any subject comprehended in the second group until candidates have passed in the subjects comprehended in the first group. An interesting debate followed. Sir John Batty Tuke supported his suggestion that a block of this sort should be introduced into the student's curriculum by alluding to the more elaborate nature of the education of the medical student and the increasing stringency of his examinations. The late Sir T. McCall Anderson, though in sympathy with Sir John Batty Tuke as far as the proposal was designed to prevent neglect of the final subjects owing to the pressure of the intermediate subjects, thought that such a scheme left the door open to an extension of the time of the curriculum to which he was entirely opposed. He therefore moved as an amendment that a minimum of two years should be devoted to the subjects of the final examinations, and that no qualifying courses on these subjects should be recognised until all the previous examinations were passed. Sir Henry Morris again advocated taking the preliminary scientific subjects out of the curriculum, and it was decided to remit these various proposals.

But yet another plan was brought forward, Sir John Williams proposing a slightly different scheme in which the subjects for the medical curriculum were to be divided into three groups corresponding with the usual divisions—namely, (1) the preliminary scientific subjects, (2) the intermediate subjects, and (3) the final subjects; but it was to be made compulsory that any instruction in any subject of the last two groups should not be recognised until the candidate had passed in the subjects of the previous group. This proposal again implied definitely dealing with medical education in watertight compartments and was duly remitted to the Education Committee. By this time the Education Committee had its hands very full, but at the summer meeting of the Council in 1907 an interim report was presented to the Council by the committee which dealt incidentally with many of the suggestions which had been remitted to it.

The report contained the educational history of 1111 licentiates and graduates in medicine in the year 1906, of whom 542 qualified in England, 402 in Scotland, and 167 in

Ireland. It was found that of these 80 per cent. had commenced their study at an age falling within the period of five years from 17 to 21, 5 per cent. having entered when younger than 17 and 15 per cent. when older than 21. The age at which these students qualified was also capable of being divided into three groups, having a certain similarity—that is to say, 80 per cent. of the 1111 students qualified within the seven years period between 23 and 29 years of age, while 5 per cent. qualified younger than 23, and 15 per cent. qualified older than 29. The Education Committee asked for permission to obtain further information with regard to the dates of the professional examination of these 1111 gentlemen, a proposal which was unanimously agreed to. In this way it would be possible to see at what points in the curriculum particular difficulty seemed to be experienced by the student, as well as to gauge how far time overspent in one direction was apt to lead to scamping in other parts of the curriculum. This interim report also contained the interesting fact that in 1906 the mean length of the curriculum of those who qualified was 6 years 11 months—namely, 7 years 4 months in England, 6 years 6 months in Scotland, and 6 years 5 months in Ireland. This interim report was a most valuable document. The number of students dealt with was large enough to make deductions from the figures fairly applicable to medical students as a whole, whether English, Scottish, or Irish; while the ascertainment of the average age of entering upon study and the average period devoted to study gave tangible ground upon which to build any schemes of reform.

A report of the Education Committee on the curriculum in medicine was submitted to the Council at the winter meeting of 1908, for which excellent piece of work (see THE LANCET, Dec. 5th, 1908, p. 1683 *et seq.*) the Council was mainly indebted to Principal Mackay. The report is of too recent date to need any summarising. It showed that a certain extent of overlapping inevitably took place in the student's career, and that the time in the curriculum which should be devoted to the final subjects was encroached upon; and it proposed the division of the course into two reasonable limiting periods. The consideration of the report, after an interesting debate, was postponed until the following session, that of May, 1909, and was then further postponed until the session now in being, where the whole matter is under discussion (see THE LANCET, Nov. 27th, p. 1641.

(To be continued.)

COMPLIMENTARY DINNER TO PROFESSOR ARTHUR ROBINSON.—The Medical Faculty and Senate of the University of Birmingham, together with a few private friends, entertained Professor Arthur Robinson, recently professor of anatomy in the University to dinner on Nov. 20th, in the University Club, Birmingham, on the occasion of his leaving the city to take up his new duties as professor of anatomy in the University of Edinburgh. The principal of the University, Sir Oliver Lodge, presided over the company, which numbered 45, among whom were Professor G. Barling, Professor J. H. Poynting, and Professor Hughes, deans of the Faculties of Medicine, Science, and Arts respectively, many of the professors, and some prominent public men. Sir Oliver Lodge proposed the toast of "Our Guest" in the happiest of terms. He spoke of his skill as a teacher, his renown as an anatomist, and his sterling qualities as a man. Professor Barling also spoke, and referred to the able assistance Professor Robinson had given him as sub-dean during the five years of his tenure of office in the University. He eulogised his services to the school as a teacher, investigator, and administrator. Professor Robinson made a feeling and appropriate reply, speaking particularly of the progress which the Birmingham Medical School had already made and of the promise it held out of still greater progress in the future. A most enjoyable evening was spent and a right hearty send-off given to Professor Robinson.

THE REPORT OF THE INTERNATIONAL OPIUM COMMISSION.

THE International Opium Commission, which was called together on the initiation of the United States Government, met at Shanghai on Feb. 1st of this year. Thirteen Governments were represented, and their deliberations were opened by an address of welcome in Chinese from the Viceroy of Liankiang, who had been nominated for this purpose by Imperial Rescript, the address being afterwards repeated in English by a member of the Viceroy's staff. The report[1] of the Commission is now issued in two parts. The first, extending to 118 pages of folio, contains the official minutes of the proceedings and the resolutions ultimately adopted, the latter being printed both in English and in French. The second part, with nearly 400 pages of folio, gives the complete reports and memoranda on the subject matter of the Commission as presented by the countries represented. These relate to the area and location of poppy cultivation, the manufacture and distribution of opium, the restrictions governing its importation and exportation in the countries affected; they relate also to the pharmacy and other laws regulating the sale of morphia and other derivatives and compounds of opium.

The following are the Governments which were represented: The United States of America (3 delegates), Austria-Hungary (1), China (4), France (3), Germany (2), Great Britain (5, including 1 representing Canada), Italy (1), Japan (3), the Netherlands (2), Persia (2), Portugal (2), Russia (1), and Siam (3). The British delegates were the Right Hon. Sir Cecil Clementi Smith, G.C.M.G., who has had considerable administrative experience in the Far East; Sir Alexander Hosie, H.B.M. Consul General; Mr. William Lyon Mackenzie, C.M.G.; Mr. James Bennett Brunyate, acting Financial Secretary to the Government of India; and Mr. Robert Laidlaw, M.P. The British delegates were assisted by two assessors—namely, Mr. Warren D. Barnes, Secretary for Chinese Affairs, Straits Settlements and Federated Malay States; and Mr. Cecil Clementi, Assistant Colonial Secretary, Hong-Kong. Of the total 32 delegates only four were medical men—viz., Dr. Hamilton Wright, one of the American representatives, who we believe was formerly engaged as director to the Medical Research Institute at Kuala Lumpur, Federated Malay States; Dr. Y. Tahara, director of the Imperial Hygienic Laboratory, Tokio; Dr. T. Takaki, director of the Medical School and Chief of the Sanitary Bureau of the Government of Formosa; and Dr. Hsü-Hua-Ching, President of the Army Medical College and Expectant Taotai of Chihli. The delegations which took the largest share in the proceedings of the Commission were the American, the Chinese, the British, and the Japanese; but the two nations chiefly concerned in the proceedings were the Chinese and the British. As the opium question, in our opinion, is very largely a medical one, it is to be regretted that Britain did not adopt the same course as America, Japan, and China, and appoint at least one medical expert among its representatives. At the opening meeting, at the close of the Viceroy's address, the chief French delegate made a direct application to him that the official language of the Commission should be French, but the Viceroy entirely ignored the request and left the meeting without giving an answer. Ultimately it was decided to make English the official language of the proceedings.

The Commission chose as its chairman the chief American delegate, the Right Rev. Charles H. Brent, D.D., Bishop of the Philippines, who, it may be mentioned, acquitted himself admirably in the difficult position which he was called upon to hold. It appears that for some considerable period negotiations had been in progress for the establishment of an International Commission on the Opium Question. At first it was proposed to restrict the nations invited to participate in the Commission to those which, through territorial possessions, commerce, &c., were actively interested in the opium question in the Far East. Later, however, the scope was considerably widened, and finally delegates were summoned from the 13 Powers already named. The Commission was intended to be one of inquiry, with a view to collect information and exchange views between the various Governments concerned, with the hope that this might lead later to

[1] Report of the International Opium Commission. Two vols. London: P. S. King and Son. 1909. About 500 pages. Price 10s. net.

the holding of an International Conference on the Opium Question. The chairman of the Commission at the beginning of the deliberations expressed the hope that the resolutions passed would be unanimous; that the recommendations would be of a practical, broad, and wise character; and that before coming to any decision the whole question would be studied from all its aspects—moral, economical, commercial, and diplomatic. We learn with some regret that the views of this broad-minded cleric upon the attitude to be adopted in examining this difficult question have not given satisfaction to a section of the more irreconcilable anti-opium enthusiasts in his own country and elsewhere. Before proceeding to propose and pass resolutions the various delegations put forward a brief statement of the opium question as it related to their own country or its dependencies. From what the chief Chinese delegates said it appeared that the national conscience of China has been recently awakened, and that there was a general movement on foot to rid the country, if possible, of the degrading opium habit. He made an impassioned appeal to the other nations to give their help in suppressing the abuse of opium in his country. Owing to the imperfect manner in which statistics are compiled in China it was not possible for him to give precise figures as to the number of persons who were addicted to the abuse of opium in the Chinese Empire, but it was safe to say that more than 25 per cent. of the adult population used opium habitually in excess. It was also impossible to state the amount of opium grown in China or the amount imported from India or elsewhere into the Empire, as much of it was smuggled into the country. A change was coming over the subject by the substitution of morphia, taken by the mouth or injected hypodermically, for opium smoking. Enormous quantities of morphia were now being imported clandestinely into China, the comparative cheapness of this drug (1 dollar's worth going as far as 3 dollars' worth of opium), the facility with which it can be obtained, and the ease with which it can be administered, all making it clear to the coolie that economy and convenience were attained by its use in place of opium. Morphia of Japanese origin could be sold cheaply, and consequently it had a virtual monopoly in Manchuria, the Yangtse valley, and other populous parts of China. A peculiar and recent phase of the opium question, especially in China, is the fact that nowadays, perhaps in response to the growth of public opinion against the opium habit, a large number of so-called anti-opium remedies, chiefly in the form of pills, are in the market, and are sold to the public in large quantities. Unfortunately, these remedies for the most part contain morphia or opium in one form or another, and this has been proved by analysis, so that the result is the substitution of opium eating for opium smoking. Although the opium smoking divans have in many places been closed this cannot be regarded as evidence of diminution in the amount of misuse of the drug, for the victim of the habit can now drug himself at home without resorting to a divan at all. Another remedy named "Peking tea" is merely black tea impregnated with morphia. Although to some perhaps these so-called anti-opium remedies may be taken in good faith with a view of casting off the yoke of the opium habit, nevertheless it is well known throughout China that these remedies are only substitutes for the opium pipe. Unfortunately, the demand for them is so great that many drug stores, native and foreign, are doing a lucrative business in making and selling these specifics. While the laws of China appear to be unable to deal satisfactorily with these "medicines" containing morphia, the selling of that alkaloid for illegitimate purposes is punished, when detected, by the penalty of decapitation. The chief Chinese delegate went so far as to assert that in Shanghai, where the commission was sitting, British, French, Austrian, and Japanese druggists, as well as others, were selling anti-opium pills which on analysis had been shown to contain morphia or opium. One particular pill of this sort manufactured by a Japanese firm commands the largest sale in China, and is carried to all the corners of that empire owing to the enterprise of its proprietors.

The evils, moral and physical, produced by the opium habit are universally admitted, and the Chinese delegation spoke in strong terms as to this. He said that Western China especially had been ravaged by this accursed habit. "Visit," said he, "the dismal and wretched hovels which were it not for this opium would be happy homes; see the emaciated, depraved multitude of victims to this vice; observe the abject poverty, and notice for the cause of it all the wide fields once covered with the waving gold of ripening grain now given over to the culture of the poppy." He concluded his speech with a fervent request to his fellow delegates for help from their Governments towards crushing the opium curse in China. He asserted that the Chinese nation had at last awakened to its evils, and the sentiments of the people had been stirred as they had never been stirred before during 2000 odd years of history. All classes were united in the determination to get rid of the curse. China looked for the fullest assistance and coöperation of all civilised powers in her attempt to "throttle the opium evil." He hoped in conclusion that such restrictions of the existing treaties as might be found to hamper her efforts in dealing with this question would not be used to this end. The British chief delegate then pointed out that the task of prohibition of opium in India was impracticable in the near future, and he added that the British delegation was unable to accept the view that opium should be confined simply and solely to medical uses. He objected to the Chinese delegate's suggestion that England should abrogate its treaties with China on the opium question, but he affirmed that the British Government would strictly adhere to its agreement so recently made as in 1908 to restrict for the next ten years the importation of opium from India by 5100 chests annually into China until a fixed minimum of 16,000 chests a year was reached, notwithstanding that this arrangement would entail a heavy loss of revenue to the Government of India. The Japanese view was that the best and most practical way of dealing with the opium habit was by gradual abolition, so that men and women addicted to the vice might break off the habit with least inconvenience to themselves.

Ultimately, after the proceedings had lasted over 14 sessions, from Feb. 1st to Feb. 26th, and as a result of considerable discussion, the Commission passed a series of resolutions, having for their object the suppression of the morphia habit and the gradual eradication of opium-smoking. Other recommendations related to the correcting of the abuse of opium and its derivatives in foreign concessions and settlements in China, that there should be a revision of the existing system of regulations in countries where opium is not prohibited for other than medical purposes, and that each delegation should advise its own Government to investigate scientifically for itself the matter of anti-opium remedies and the effect of opium and its products. Finally, international coöperation was advocated to prevent the smuggling of opium into countries where a prohibitory law prevails.

The report is of special interest in view of the statement made by Sir Edward Grey in the House of Commons on Nov. 4th to the effect that the British Government was considering a proposal made to it by the Government of the United States that an International Conference on the Opium Trade should be held shortly at the Hague.

MEETING OF METROPOLITAN PRACTITIONERS AND THE DIRECT REPRESENTATIVES ON THE GENERAL MEDICAL COUNCIL.

DR. J. FORD ANDERSON presided at a meeting of the members of the medical profession who reside in London and its neighbourhood which was held under the auspices of the Metropolitan Counties Branch of the British Medical Association at the St. James's Vestry Hall, Piccadilly, W., on the evening of Nov. 22nd.

Dr. H. W. LANGLEY BROWNE, who spoke first, after briefly sketching the history of the General Medical Council, whose position, duties, and possibilities, he said, were not fully understood either inside or outside the profession, proceeded to refer to an inconvenience in the arrangement of the medical constituency for election purposes. Each representative, he thought, should represent a division of the country and not the whole. At the time of the last election for Direct Representatives, although the clearest regulations were sent out, 1503 of the returned papers were invalid because they were inaccurately filled up. Out of a total number of 24,659 only 11,000 odd

were returned in the proper time and 11,000 odd were not returned at all. This had a bad effect, because it fostered the idea that medical men were apathetic with regard to their interests. The speaker then referred to the committee which the Council had appointed to inquire into unqualified practice in this and other countries. Lord Crewe, the Foreign Office, and the Colonial Office had rendered great help in this inquiry, with the result that a large amount of information had been obtained and a digest had been made which could be obtained at the offices of the Council. This inquiry showed that in almost every country except our own unqualified practice was not allowed to exist or was greatly restricted. He did not think there would now be much difficulty in getting the unsatisfactory Clause 40 of the Medical Act altered. The Local Government Board had sent out circulars to medical officers of health asking for information with regard to unqualified practice in their districts, but he thought that the general practitioners had better means of knowing the condition of things in their respective areas than medical officers of health, and he believed that in some cases the inquiry forms had been returned without investigation having been made.

Dr. H. A. LATIMER said that the limitations of the Council were not rightly understood, and he gave several amusing instances of irrelevant questions which were put to him when standing before his election by some of his constituents. The Act of 1858 was faulty and failed to protect the medical profession as it should do. Referring to the unsatisfactory nature of Clause 40 he said he knew of cases where masseurs and bonesetters had given evidence in courts of law as to injuries. The colonies were far ahead of this country in regard to the protection of the public and the profession, and the new colonial enactments of Bermuda, Newfoundland, and British Central Africa went further than any legislation in this country. Of late our legislators were becoming more careful of the health of the country. A Midwives Act had been passed which had been rather detrimental to the medical profession, but which in the end he believed would be beneficial for all parties. That was a great step in the right direction, but if the health of the country was to be properly safeguarded no unqualified person whatever should be allowed to practise. Although the Council had not been able to do much with regard to individual quackery, it had done something towards preventing what he called corporate quackery, for the charters of opticians and medical herbalists had been successfully opposed. A part of the lay press were responsible for the sale of many quack remedies, and it was significant that some newspapers had refused to advertise the publication relating to proprietary remedies which had lately been issued by the British Medical Association. The Council as a body kept a very jealous eye upon medical education. The penal work of the Council, under the able guidance of its distinguished presidents, of whom Sir Donald MacAlister was not the least, had been so carefully done that attempts to upset it had almost invariably failed in the courts. He thought that the Direct Representatives had been successful in doing the work they were required to do, and an additional representative had been granted. With regard to the method of electing Direct Representatives, he was strongly in favour of creating constituencies.

Dr. L. S. MCMANUS, after paying a tribute to the able leadership of Dr. Langley Browne, said that the constitution of the Council was radically wrong, and was likely to remain so unless pressure were brought to bear from outside. The representatives of the corporations were not in touch with those whom they were supposed to represent. He briefly sketched the way in which penal cases were dealt with, remarking that, contrary to the general idea, the Council always leaned to the side of leniency. Referring to the method of electing representatives he said that England should be divided into three districts, north, middle, and south, and Wales should have the fourth representative. There should be legislation which would allow the Council to deal with quacks of all sorts. The watchword of the profession should be coöperation and organisation, things which it had lacked in the past. The medical profession ought to be represented in Parliament by medical men. If such had been the case would any Cabinet Minister have dared to put that objectionable clause in an Act requiring medical men to be fined if they failed to notify a birth within 36 hours?

Dr. MAJOR GREENWOOD asked for some expression of opinion from the Direct Representatives on the Poor-law Commission report.

Dr. LANGLEY BROWNE said that his sympathies were to a large extent with the Minority Report, but that he was not prepared at the present moment to make a statement with regard to the matter.

A very brief discussion took place with regard to prescribing chemists, Dr. G. A. HERON remarking that he had interviewed many of the leading chemists who had told him that they were quite willing not to prescribe if medical men would undertake not to dispense.

The CHAIRMAN, reading a question that had been handed up to him, asked Dr. Latimer whether there was an early prospect of suppressing the sale of patent drugs.

Dr. LATIMER thought that at present it was impossible, but that much might be done by requiring their exact composition to be stated on the label. The public would then be careful not to pay 1*s.* 1½*d.* for a box of pills which cost ¾*d.*

The proceedings terminated with a vote of thanks on Sir VICTOR HORSLEY'S proposal, to the three representatives for their attendance at the meeting.

ASYLUM REPORTS.

City of Cardiff Mental Hospital (*Report for the Year 1908*).—The total number of cases under treatment during the year was 764, this being also, as the hospital is a new one, the number of admissions. The discharges amounted to 49, and of these 28 were recovered. The deaths numbered 31, and necropsies were held in 30 cases. Upon Dr. Edwin Goodall has fallen the brunt of the work in the preparation of this hospital for the reception of mental patients, and the careful planning and organisation which have been devoted to it are characteristic of modern methods utilised and developed by a physician who has appreciated their enormous value. We cannot do better than quote from Dr. Goodall's report. "The institution is equipped much above the average in respect of scientific apparatus for clinical and pathological research. Such equipment is necessary in every hospital for mental diseases if the medical spirit, without which these institutions would rank merely as places of detention, is to be fostered, and young medical men of a desirable stamp are to be attracted. More than ever is it incumbent to have such in a mental hospital in touch with a town possessing medical laboratories and trained workers in all departments of medicine, which provides post-graduate instruction, and which aims at possessing a complete medical school." When we read of this or that asylum having a remarkably low rate of maintenance, we are not, therefore, to envy that institution forthwith, and to set it up as a model to be followed. Before congratulating the authorities we require to be satisfied upon a few points. What, in brief, are their ideals? Is the institution merely a home of rest, where the "patients" are clothed, fed, and amused, where the medical service wholly or mainly consists in a perfunctory round, and attention to the "primæ viæ"; where employees, to whom courtesy accords the designation of "nurse," patrol the wards in the proportion of 1 to 10 or 12 patients? How many of the patients drift into dementia because they have not, for reasons of want of confidence, been sent in early enough, and because they have received no treatment worthy the name, in order that expenses may be kept down? Dr. Goodall is of opinion that if people appreciated that an extra 4*d.* per head per week or so meant to their relatives a better chance, better medical attention, more refined and skilled nursing, constant effort to prevent dementia and promote more rapid recovery, a putting off of the evil day of extensions to buildings, they would consider the extra expenditure not only justifiable but desirable and in the long run a real economy. Nothing could be better than that these objects should be the aim of every authority in lunacy in the country.

Suffolk District Asylum (*Report for the Year 1908*).—At this asylum the total number of cases under treatment during the year was 1100. There were 230 admissions. The discharges numbered 166, and of these there were 42 recovered. The recovery rate, calculated upon the net admissions, was 22·4 per cent. The death-rate, calculated on the average

number resident, was 12 per cent. Dr. J. R. Whitwell, who issues the report, states that of the total number of deaths 20 per cent. were due to some form of tuberculous disease.

THE JOHN HERBERT WELLS FUND.

THE following is the third list of subscriptions promised to or received by this fund, which is in aid of the widow and children of the late Dr. John Herbert Wells who died recently from the effects of an accidental infection contracted whilst preparing a vaccine from the glanders bacillus, with which he succeeded in curing his patient. (THE LANCET, Oct. 23rd, p. 1253.) Further subscriptions will be gratefully received by the Earl of Dalhousie and Mr. Julian G. Lousada, the honorary secretaries and treasurers of the fund, at 16, Old Broad-street, E.C., or by ourselves at this office:—

	£	s.	d.
Sir Henry Harben	100	0	0
Mrs. T. Wharrie	100	0	0
Mr. L. E. Ralli	100	0	0
The Earl of Dalhousie (second donation) ...	75	0	0
Members of the Stock Exchange (per Mr. Edmund A. Smith) ...	64	17	0
Dr. A. D. Waller	10	10	0
Dr. James F. Goodhart...	10	10	0
Mr. W. H. Clayton Greene	10	10	0
Mr. C. Montague Lush, K.C.	10	10	0
Mr. W. K. D'Arcy	10	10	0
C. W. C.	10	0	0
Mrs. Martin	10	0	0
The Misses Bayly	10	0	0
Mrs. Bischoffsheim... ...	10	0	0
Dr. D. B. Lees	5	5	0
Mr. E. L. de M. Mocatta	5	5	0
Mrs. Annie Forster... ...	5	5	0
Mrs. Faithfull	5	5	0
Messrs. G. Ellissen and Co.	5	5	0
Mr. Arnold D. Blyth ...	5	5	0
Mr. L. E. Raphael	5	5	0
Mr. R. Wayley Cohen ...	5	5	0
Mr. J. Moulton	5	5	0
Honourable R. Oliver ...	5	5	0
Mr. Meyer A. Spielmann	5	5	0
Major-General H. P. Ewart	5	5	0
Mr. W. B. Peat	5	5	0
Mr. Wm. C. Smale	5	5	0
Mr. Otto Gutekunst ...	5	5	0
Captain G. A. Webbe ...	5	0	0
J. E. L. C.	5	0	0
Mr. Claude G. Montefiore	5	0	0
Earl St. Germans	5	0	0
Lady Swaything	5	0	0
Messrs. Francis and Praed	5	0	0
Mr. M. Handfield-Jones	5	0	0
Mrs. Petherick	5	0	0
Lord Derby	5	0	0
Anonymous	5	0	0
Miss E. E. Scott	5	0	0
Messrs. Seligman Bros.	3	3	0
Mr. L. S. Dudgeon... ...	3	3	0
Mr. Turner Henderson...	3	3	0
Mrs. F. L. Crutchley ...	3	3	0
Mr. L. Floensheim	3	3	0
Mr. F. A. Hillard	3	3	0
Mr. Walter E. Rubens ...	3	3	0
Mr. H. S. Kadoorie ...	3	0	0
Rev. and Mrs. W. D. Scott	3	0	0
Dr. R. Hutchison	2	2	0
Mr. and Mrs. Perrin ...	2	2	0
Mr. John H. Morgan ...	2	2	0
T. J.	2	2	0
Mr. H. E. Beddington ...	2	2	0
Miss C. L. L. Passy ...	2	2	0
Mrs. Rebecca Henriques	2	2	0
Mr. F. Morton	2	2	0
Mr. F. J. Fidler	2	2	0
Mr. H. Gaselee	2	2	0
Mr. and Mrs. Morton Evans	2	2	0
Mr. A. R. Wilson	2	2	0
Mrs. W. G. Raphael ...	2	2	0
Mr. Henry Lucas	2	2	0
The Misses I. and H. Farquhar	2	2	0
Mr. Geoffrey Bate	2	2	0
Mrs. Howard Hayward	2	0	0
Mr. Isidor Morse	2	0	0
Anonymous	2	0	0
O. W. L. H.	2	0	0
Mr. Louis Davidson ...	2	0	0
Mrs. E. Farquhar	2	0	0
Mr. J. Waley Cohen ...	1	1	0
Mrs. Rhodes	1	1	0
Miss Eleanor Bairdsmith	1	1	0
X.	1	1	0
Mr. Claud Woakes	1	1	0
Dr. May Thorne	1	1	0
Mrs. Hextall	1	1	0
Mr. P. R. Loewi	1	1	0
Mr. G. L. Jacobs	1	1	0
Mr. J. F. Hall	1	1	0
Mrs. Carden	1	1	0
Dr. R. H. Urwick	1	1	0
Mr. Henry Wren	1	1	0
Mr. Raleigh B. Philpotts	1	1	0
Mr. Henry Crouch	1	1	0
Mr. H. R. C. Wild	1	1	0
Mr. F. R. Mallet	1	1	0
Mrs. Fredc. Weatherall...	1	1	0
Mr. C. J. Barry	1	1	0
Dr. F. A. Hyne	1	1	0
Mr. J. H. Greener	1	1	0
Mr. G. Sachs	1	1	0
Mr. M. D. Hill	1	1	0
Lady Spielmann	1	1	0
Mrs. Annie T. Banning ...	1	1	0
Dr. Bigger	1	1	0
Mr. T. Colyer Fergussen	1	1	0
Mrs. W. Bailey	1	1	0
F. W.	1	1	0
Miss H. Chick	1	1	0
Mr. Lewis Schloss	1	1	0
G. T. C.	1	1	0
Dr. W. Haward	1	1	0
Mr. F. H. Goldschmidt ...	1	1	0
Mr. P. M. Hitchins... ...	1	1	0
Dr. Harold Van Praagh...	1	1	0
Major Caleb Collins ...	1	0	0
Miss S. Maude...	1	0	0
Mr. W. Gillett	1	0	0
G. H. B.	1	0	0
Mr. A. C. Pirie	1	0	0
Mrs. Miller	1	0	0
Mrs. K. Hetherington ...	1	0	0
Mr. E. W. Matthews ...	1	0	0
Miss E. L. Baker	1	0	0
Capt. F. H. Tubb	1	0	0
Reader of *Spectator* ...	1	0	0
Mr. A. H. Brown	1	0	0
Mr. W. Rochfort	1	0	0
Mr. Eyre Crowe	1	0	0
Dr. Derbyshire	1	0	0
Mr. E. Dreyfus	1	0	0
Mr. R. Hartindale	1	0	0
Mr. A. F. G. Gape	1	0	0

In addition to the above, many smaller amounts have also been promised or received.

UNIVERSITY COLLEGE, LONDON.—The new botanical laboratories at University College (University of London) will be opened on Friday, Dec. 17th, by Dr. D. H. Scott, F.R.S. The Vice-Chancellor (Professor M. J. M. Hill) will preside. Applications for tickets of admission should be made to the Secretary, University College, London, W.C.

THE MEDICAL PROFESSION AND MUNICIPAL HONOURS.

THE following members of the medical profession have been elected or re-elected to the mayoral chair. Brief notes of their medical and municipal careers are given:—

Aldeburgh.—Mrs. Elizabeth Garrett Anderson, M.D. Paris, L.S.A., who last year was honoured by being the first lady mayor to be elected under the Act of 1907, which admitted women to town councils, has been re-elected Mayor of Aldeburgh. She obtained the diploma of L.S.A. in 1865, and graduated in the University of Paris in 1870. In 1866 she became senior physician to the New Hospital for Women, and subsequently consulting physician. She was also dean and lecturer on medicine at the London School of Medicine for Women and visiting physician to the East London Children's Hospital.

Lymington.—Mr. Edward F. Chinery, F.R.C.S. Edin., M.R.C.S. Eng., L.S.A., the Mayor of Lymington, received his professional education in Edinburgh and London. He became a Fellow of the Royal College of Surgeons of Edinburgh in 1880. He practised at Lymington for 38 years, retiring in 1906, and has since spent his well-earned leisure in visiting various parts of the world. He is an ex-chairman of the Southampton branch of the British Medical Association and has been a justice of the peace for Lymington for some years.

Montgomery.—Mr. Nicholas Watson Fairles-Humphreys, M.R.C.S. Eng., L.S.A., who has been re-elected Mayor of Montgomery, was born in 1837 and studied medicine at St. Bartholomew's Hospital. In 1885 he was elected alderman for the borough of Montgomery and has been 11 times mayor. He is a justice of the peace for the county of Montgomery, was high sheriff in 1882–83, and has been a county alderman since 1889. His grandfather, Nicholas Fairles, justice of the peace for the county of Durham, was the originator of the lifeboat movement and chairman of the first committee.

Newark.—Mr. F. H. Appleby, M.R.C.S. Eng., L.S.A., J.P., the Mayor of Newark, was a student of University College, London, and went to Newark 44 years ago as house surgeon to the hospital. He has since practised in partnership in that town, and is now the *doyen* of the profession in Newark and senior honorary surgeon of the hospital. He has done excellent work as lecturer and examiner to the St. John Ambulance Association, and in recognition of his services was appointed Honorary Associate of the Order of St. John of Jerusalem. The Volunteer movement has also commanded his active sympathy. He joined the 4th Notts as surgeon in 1884 and gradually rose to be senior medical officer of the North Midland Brigade, ranking as Brigade-Surgeon-Lieutenant-Colonel. On the formation of the Territorial Forces he was appointed a military member of the County Association and is Lieutenant-Colonel of the Royal Army Medical Corps, T.F., at the present time. He has also received the V.D. The new mayor has been a member of the town council for 19 years and has done good work on the sanitary committee, of which he is chairman, and also in connexion with the isolation hospital. Ten years ago he was unanimously called to the office of mayor, which he filled with success, as is shown by his re-election. Besides being chairman of the free library committee and the museum committee, Mr. Appleby is connected prominently with several educational undertakings in the borough over which he presides.

Oswestry.—Mr. R. de la Poer Beresford, M.D. Glasg., L.R.C.P., L.R.C.S. Edin., L.R.C.P. Lond., V.D., has been elected Mayor of Oswestry after having served his borough in the capacity of medical officer of health for 42 years, which makes him possibly the senior medical officer of health in England. He is the senior surgeon to the Oswestry Hospital and Dispensary and to the Ellesmere Cottage Hospital, and surgeon to the Cambrian Railway Company. He now holds the rank of Colonel, R.A.M.C., T.F., having received his first commission in the Volunteers in 1887.

St. Albans.—Mr. Eustace H. Lipscomb, M.B., B.C. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., the Mayor of St.

Albans, commenced his medical training at Caius College and Addenbrooke's Hospital, Cambridge. He subsequently entered Guy's Hospital and after holding a resident appointment at the East London Hospital for Women and Children at Shadwell he joined his father, the late Dr. J. T. N. Lipscomb, and Mr. H. Leslie Bates in partnership in 1888. He has been an honorary medical officer of the St. Albans and Mid Herts Hospital since 1890 and medical officer to H.M. Prison at St. Albans since 1893. On the death of his father in 1898 he was put on the commission of the peace for St. Albans. He is a governor of the St. Albans Grammar School and a trustee of several local charities. It is interesting to note that Dr. Lipscomb's grandfather, Mr. John T. Lipscomb, who died in 1869, was twice mayor of the town—namely, in 1819 and 1836—and that his father was mayor in 1870.

Wolverhampton.—Mr. John Grout, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., the Mayor of Wolverhampton, began his medical career as a pupil of Dr. Russell Talbot, who was at the time medical officer of health of Bow and Bromley. He afterwards entered as a student at Queen's College, Birmingham, and in due course became qualified as L.R.C.P., L.R.C.S. Edin., after which he commenced practice in Wolverhampton. He joined the town council seven years ago and has always taken a keen interest in municipal affairs. He is a member of several committees and is also a member of the South Staffordshire Small-pox Board. He is one of the honorary surgeons to the Wolverhampton and District Hospital for Women.

MEDICINE AND THE LAW.

The Workmen's Compensation Act.

IT is not perhaps surprising that the term "accident" within the meaning of the Workmen's Compensation Act should still be the subject of frequent discussion in the Court of Appeal. In a recent number of the *Law Reports* there appears a case in which the question was whether a man who died from aortic aneurysm was the victim of an accident. It appeared that while engaged in tightening a nut with a spanner and pressing down the spanner he suddenly fell dead. A post-mortem examination showed that he was suffering from a very large aneurysm of the aorta, that he died from rupture of the aorta, and that the rupture might have been brought about by very slight exertion. The county court judge found that death was caused by a strain arising out of the ordinary work of the deceased operating upon a condition of body which was such as to render the strain fatal. It was held that this was an "accident" within the meaning of the Act. In giving judgment the Master of the Rolls said: "Every man brings some disability with him. Any exertion or any external action which might have been entirely innocuous to a man in good health might produce most serious results to a man bringing with him some disability. This man brought with him a disability of a serious nature, an aneurysm, which I quite agree might have caused his death at some time or other without an exertion, usual or unusual. But here we have this fact—a strain in the course of the ordinary discharge of his duties from which the man dies." Quoting Lord M'Laren, he continued: "If a workman in the reasonable performance of his duties sustained a physiological injury as the result of the work he is engaged in, this is an accidental injury in the sense of the statute." Another case, reported in the same number of the *Law Reports*, raised the question as to what constitutes "refusal" by a workman to undergo medical examination. The Act provides that a workman who is receiving weekly payments must, if so required by the employer, from time to time submit himself for examination by a duly qualified medical practitioner, provided and paid by the employer. If the workman refuses to submit himself to such examination or in any way obstructs the same, his right to such weekly payments shall be suspended until the examination has taken place. In the case under notice a medical man, instructed by the employers, asked a workman in receipt of weekly payments under the Workmen's Compensation Act to submit himself to examination. The man answered that he had no objection provided his own medical man was present. It was held that he had not "refused" within the meaning of the section. Cases of refusal to submit to operation, where it is advised for the remedy of the condition, continue to occur, and each such case must bring its own peculiar difficulties. The settled law upon the question whether an injured workman is bound to submit to an operation is well illustrated by a recent case in the Court of Appeal. A seaman had his fingers burnt. One of them became septic. After about four days the ship's doctor lanced it. The next day the same doctor suggested an operation which would have involved two or three incisions being made in the finger. This the applicant refused, with the result that he finally lost the finger. The county court judge was of opinion that the man might have perfectly well undergone the operation, and that he might thus have been cured; but having regard to the fact that another doctor had expressed the view that an operation would not have saved the finger, he could not say that the applicant was unreasonable. In these circumstances he felt bound to make an award which has been affirmed by the Court of Appeal.

The London Hygienic Institute Again.

Comment was made in THE LANCET of Oct. 23rd, p. 1236, upon an action in which damages were recovered against the "London Hygienic Institute" for injuries sustained by a plaintiff, 23 of whose teeth had been extracted at one sitting by an unqualified person employed to practise dentistry by the defendants. Since then yet another action has been brought against the same defendants upon similar grounds, and after being partly heard has been settled upon terms which were not disclosed. This second trial does not seem to demand any further comment upon the methods of the "institute," which appear to have been substantially similar upon the two occasions. In the second case the plaintiff, a woman, had come up from the country to be treated. According to her story an employé of the defendants, a man who was not qualified, save by seven years' "experience" in pulling out teeth, advised her to have all her teeth removed and extracted five on the first day, injecting cocaine into her gums, and 11 on the second, after which she suffered severely from cocaine poisoning. The operator in question denied in the witness box that he had advised the extraction of so many teeth at one time and declared that the patient had herself insisted on it. The throwing of the blame on the patient for a matter which should and would be decided by a qualified practitioner is characteristic of this kind of case and the attempted justification employed. The operator's explanation was that the patient desired to have her teeth extracted; that he did not wish to take out so many as 11 on the second day, but that she said that she wished to return home; that he was allowed no discretion; and that, as he was in the hands of his employers, complaint from the patient that he had refused to operate when she was willing to submit would have lost him his situation. He also said that he operated on an average upon 35 patients in a day, working sometimes for 12 hours with an hour's interval, and he excused himself for not having given the plaintiff an antiseptic mouth wash by saying that he had no time to do so, as any delay over a patient meant the prolonging of his day's work. The consideration of the evidence at these two trials is recommended to foolish persons who may think of visiting the "London Hygienic Institute," or any similar establishment where dentistry or medicine is practised by unqualified persons.

OPIUM SMOKING IN CHINA.—Mr. G. M. H. Playfair, British Consul at Foochow, in his annual report to the Foreign Office, after describing reforms that have been effected in educational and other matters, remarks that "another national movement of an extraordinary nature is what rulers and people have done to demolish the national vice of opium smoking. The stimulus came from above in the form of an Imperial edict, but it is doubtful whether even a decree of the Emperor would have done effectual work had not the people shown they were heart and soul in the crusade, and that they were determined the mighty enterprise should succeed. It is still too early to pronounce whether China has succeeded in her endeavour, or, indeed, to be absolutely certain that she is honest in her wish to see the last of the produce of the poppy. But there is, at least in this part of China, evidence that rulers and people are sincere, for streets of opium shops have been closed and myriads of pipes and other smoking paraphernalia have been committed to the flames."

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

The City of Cape Town.—Dr. A. Jasper Anderson is unable to estimate the population of this important city with any degree of accuracy, as great changes have taken place since the date of the last enumeration in August, 1904, but there is no doubt, he thinks, that the population has undergone a decrease. A large number of unmarried Europeans in the prime of life have left the country, and some of the coloured people have gone to other parts of the colony or for German South-West Africa in search of work. Since the census year there has been a gradual decrease in the number of births amongst Europeans each year, and the births for 1908 numbered 791, as compared with 1020 in the census year. There has also been a slight decrease in the number of births amongst the coloured population. Dr. Anderson's rough estimate of the present population of the city is 65,710, the Europeans being a little in excess of the coloured people. Of course, with this uncertainty as regards the population the several rates must have a greatly impaired value. The birth-rate of Europeans is estimated at 23·29, amongst the coloured population at 51·38, a difference upon which much could be written did space allow. Amongst the Europeans the percentage of illegitimate births to total births was 7·98; amongst the coloured it was 22·79. Turning now to the death-rate, we find that the corrected European rate was 14·16 per 1000, as against a rate of 35·91 for the coloured. The infantile mortality of both white and coloured has very materially diminished within recent years, the average rates for the last four years being 103·3 amongst the Europeans and 227·4 amongst the coloured per 1000 births respectively. Much useful work is being carried out in Cape Town with reference to the control of infantile mortality. Scarlet fever is, Dr. Anderson reports, mainly confined to Europeans, but the coloured are not, it appears, by any means absolutely immune, so far as can be judged from the figures in the report. For instance, in 1908 there were 80 cases with 4 deaths, which is a rather high fatality rate. Dr. Anderson regards the relative immunity of the coloured people as one cause of the spread of the disease; that is to say, the cases are mild and unrecognised, while the difficulty of discovering the rash on coloured skins further accentuates the problem. Puerperal fever claims many victims amongst the coloured population, and Dr. Anderson advises that the midwives should now be registered and regulated. Although tuberculosis is compulsorily notifiable in Cape Town, and the notification appears to be working fairly well, a considerable number of cases both amongst the white and coloured people die unnotified, a circumstance which is explained by the statement that the disease was only discovered just before or after death. Dr. Anderson suggests the foundation of a dispensary where early cases could be diagnosed and assistance rendered. The water-supply of Cape Town is from springs on Table Mountain, but there are still large storage tanks in connexion with each house, of which Dr. Anderson naturally disapproves, and which are soon to disappear. The water at its source is reported to be remarkably pure. Dr. Anderson strongly urges the erection of a municipal abattoir for Cape Town, as by the present arrangement it is impracticable to inspect the meat consumed in the town.

REPORTS OF SCHOOL MEDICAL OFFICERS.

The City of Manchester.—The sixth report of the education committee of this city relates to the year 1907–08; that is to say, to a period antecedent to the operations under the new regulations of the Board of Education. A special interest, therefore, attaches to the report before us in that it shows what the practical people of Manchester, with their strong humanitarian instincts, were doing before Parliament imposed upon the local education authorities the duty of medical inspection. This report, which embodies that of Dr. A. Brown Ritchie, the school medical officer, contains a great deal of information which is of much interest to all social reformers, but we can only touch upon such portions of it which have a direct or indirect bearing upon physical health. Not least amongst these subjects comes that of domestic economy, since it is obvious that no small amount of the death- and sickness-rates amongst the poorer classes is due to ignorance as to the dietetic value of foods and as to the proper manner of their preparation. Consequently, it is gratifying to learn that there are now in Manchester three housewifery centres whereat the teaching of cookery, laundry work, and domestic economy to girls is undertaken. During the period to which the report relates 7108 children were under instruction in cooking, 1307 in laundry work, and 192 in housewifery, while practical instruction in the feeding and tending of infants was given to 7267 girls. Physical exercises under the supervision of an experienced attendant are given to the children in all the schools of the city, and the school playgrounds at several centres are available for the recreation of children out of school hours. The bathing of school children in the public baths is encouraged through an arrangement with the baths committee of the city council, by means of which children from the elementary schools are admitted to the second-class baths without payment when under the charge of a teacher, and free lessons in swimming are given. During 1907–08 as many as 611,612 visits were made by children to the baths, and of these 417,126 were free. The number of visits in 1897 was 133,152. With respect to the provision of country schools for city children, concerning which a good deal is being heard at the present time, it will come as a surprise to many people who have not followed events in Lancashire to hear that such a school was established five years ago by a voluntary committee at Mobberley in Cheshire. The cost of this building was mainly borne by Mr. Herbert Philips of Macclesfield. This school receives relays of children from April to October from the elementary schools in the poorer districts of Manchester and each batch stays about a fortnight, the pupils being accompanied by their ordinary day school teachers, and taught, boarded, and lodged during the period. Nothing is charged except the local habitation of the children. This scheme was approved by the Board of Education about four years ago and the attendances of the children at the county school are duly credited as attendances. Each child pays the nominal sum of 7*s.* for the fortnight's stay, the balance of the cost being met by voluntary contributions. The experiment has proved a remarkable success, and through the generosity of Mrs. Herbert Philips and others, as well as by the coöperation of the education committee, the dormitories have been extended to accommodate 128 beds, and the site, which has been increased to 17 acres, has been transferred to the city council. Special provision is also made by the education committee for afflicted children, and the report under review contains an instructive account of the details. The actual work of the medical inspection of children under the new regulations only commenced in February, 1909, and the staff now consists of a school medical officer and three male and one female assistant medical officers, each having an allotted district and devoting full time to the work, and, in addition, one male part-time assistant medical officer specially engaged in infectious diseases work. There are also five school nurses—one to each medical officer. It is estimated that 18,000 children—i.e., 11,000 of 5 years old and 7000 of 13 years old—out of a total school population of 110,000 will have to be examined during 1909—i.e., during the current year. Although routine medical inspection under the new order of things has but just commenced in Manchester, a perusal of the medical officer's report shows what extremely valuable work has already been carried out in this city in reference to infectious diseases, eyesight, hearing, and the like; while the work done by the school medical officer as regards the provision of meals to necessitous children shows how very markedly the condition of the children has improved with increased sustenance. Lectures on hygiene to pupil teachers were given by the medical officer and lectures to parents were delivered by certain of the school teachers.

The County of East Sussex.—The school medical officer of this district is Mr. A. G. R. Foulerton, the county medical officer of health, while the routine work of inspection is carried out by two assistant medical officers who each contribute a short report upon the work done in their respective districts. These officers devote nine days each fortnight to the duties of routine inspection and the tenth working day to ascertaining at the several schools previously inspected what steps have been taken by the parents to obtain treatment for their children. As to this important but difficult question of treatment, the

school medical officer points out that the fact of medical inspection in no sense absolves the parent from the duty of obtaining treatment for his child; indeed, as he adds, the position has become emphasised by the subsequent passing of the Children Act, by means of which under Section 12 it is made an offence to fail to make provision for the medical treatment of a person between the ages of 14 and 16 years. As to this Mr. Foulerton observes that in the county here in question the parents may be divided into groups: (*a*) those who are both able and willing to provide all medical treatment necessary; (*b*) those who can provide what may be called ordinary treatment, but whose means fail when special treatment is in question; and (*c*) those parents who are unable to provide any sort of treatment for their children other than that which can be procured under the Poor-laws. For these last children the medical officer regards the voluntary hospitals as providing what is required, and in this connexion he suggests that subscribers to these institutions should place their letters of recommendation at the disposal of the medical inspection sub-committee. Although it may, this medical officer thinks, be advisable to establish school clinics or to provide otherwise for treatment in large cities, such provision in country areas is not necessary. Here in East Sussex the education committee intends to do nothing which will diminish the proper sense of responsibility which the parent should feel for his child.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 7566 births and 4606 deaths were registered during the week ending Nov. 20th. The annual rate of mortality in these towns, which had been equal to 12·0, 13·3, and 13·8 per 1000 in the three preceding weeks, further rose to 14·6 in the week under notice, and exceeded the rate recorded in any week since April last. During the first seven weeks of the current quarter the annual death-rate in these towns averaged 13·0 per 1000, and in London during the same period the rate did not exceed 12·8 per 1000. The lowest annual rates of mortality recorded in the 76 towns last week were 6·5 in Hornsey, 6·7 in Burton-on-Trent, 8·2 in Reading, and 8·6 in Bournemouth; the rates in the other towns ranged upwards, however, to 20·8 in St. Helens, 21·1 in Birkenhead, 21·8 in Bootle, and 26·5 in Hanley. In London the recorded death-rate last week was equal to 14·7, showing a further increase upon the rates in recent weeks. The 4606 deaths registered in the 76 towns last week showed a further increase of 253 upon the numbers returned in the three preceding weeks, and included 281 which were referred to the principal epidemic diseases, against numbers steadily declining in the 12 preceding weeks from 849 to 261; of these 281 deaths, 73 resulted from diarrhœa, 69 from whooping-cough, 47 from diphtheria, 45 from measles, 28 from scarlet fever, and 19 from "fever" (principally enteric), but not one from small-pox. The 281 deaths from these epidemic diseases last week were equal to an annual rate of 0·9 per 1000, against 0·9 and 0·8 in the two previous weeks. No death from any of these epidemic diseases was registered last week in Reading, Devonport, King's Norton, Newport (Mon.), Bournemouth, or in four other smaller towns; the annual death-rates therefrom ranged upwards, however, to 2·7 in Merthyr Tydfil, 3·0 in West Bromwich, 3·2 in Northampton, and 3·8 in Hanley. The deaths attributed to diarrhœa in the 76 towns, which had declined in the 12 preceding weeks from 675 to 68, rose again last week to 73; the highest annual death-rates from this cause last week were 1·3 in Merthyr Tydfil, and 1·8 both in Aston Manor and in South Shields. The fatal cases of whooping-cough, which had been 31 and 48 in the two preceding weeks, further rose last week to 69, and caused annual rates equal to 1·3 in Coventry and 1·5 in Middlesbrough. The 47 deaths from diphtheria also showed an increase, and included 16 in London and its suburban districts, 6 in Liverpool, 3 in Manchester and Salford, 3 in Bradford, and 2 both in Stockport and in Warrington. The 45 fatal cases of measles exceeded the number in any recent week, and caused the highest annual rates, equal to 3·0 in Hanley and 3·2 in Northampton. The 28 deaths from scarlet fever were fewer than in any recent week; 7 occurred in Birmingham, 6 in Manchester and Salford, and 2 in Bury, which were equal to an annual rate of 1·8 per 1000. The 19 deaths referred to "fever" were within one of the number in the previous week, and included 3 in Leeds. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had declined during the five preceding weeks from 2810 to 2624, had further fallen on Saturday last to 2606; 308 new cases of this disease were admitted to these hospitals during last week, against 336 and 284 in the two preceding weeks. The Metropolitan Asylums Hospitals contained 5 small-pox patients on Saturday last, an increase of 1 during the week. Of the 1363 deaths registered in London last week, 283 were referred to pneumonia and other diseases of the respiratory system, against numbers increasing from 167 to 288 in the five preceding weeks; these 283 deaths were, however, 47 below the corrected average number in the corresponding week of the five years 1904–08. The causes of 40, or 0·9 per cent., of the deaths registered last week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death registered last week were duly certified in London, Leeds, Bradford, Newcastle-on-Tyne, Hull, Nottingham, Leicester, and in 49 smaller towns; the 40 uncertified causes of death in the 76 towns last week included 8 in Birmingham, 5 in Liverpool, and 4 both in Sheffield and in South Shields.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns 768 births and 708 deaths were registered during the week ending Nov. 20th. The annual rate of mortality in these towns, which had been equal to 12·9, 15·3, and 15·8 per 1000 in the three preceding weeks, further rose to 19·8 in the week under notice. During the first seven weeks of the current quarter the annual death-rate in these Scotch towns averaged 14·5 per 1000, and exceeded by 1·5 the mean rate during the same period in the 76 largest English towns. The annual death-rates last week in these Scotch towns ranged from 11·0 and 14·8 in Leith and Edinburgh, to 17·6 in Paisley and 24·9 in Glasgow. The 708 deaths from all causes in the eight towns last week showed a further increase of 142 upon the numbers returned in the three preceding weeks, and included 77 which were referred to the principal epidemic diseases, against 67 and 66 in the two previous weeks. These 77 deaths were equal to an annual rate of 2·2 per 1000; the mean rate from the same diseases last week in the 76 English towns did not exceed 0·9 per 1000. The 77 deaths from these diseases in the Scotch towns last week included 36 from measles, 12 from whooping-cough, 10 from diarrhœa, 9 from scarlet fever, 9 from diphtheria, and 1 from "fever," but not one from small-pox. The fatal cases of measles which had been 9, 24, and 22 in the three preceding weeks, further rose last week to 36, of which 34 occurred in Glasgow and 2 in Edinburgh. The 12 fatal cases of whooping-cough also showed an increase upon the numbers in recent weeks, and included 10 in Glasgow. The deaths attributed to diarrhœa, which had been 10, 13, and 16 in the three preceding weeks, declined again last week to 10, of which 3 were returned both in Glasgow and in Aberdeen, and 2 in Dundee. Seven of the 9 fatal cases of scarlet fever occurred in Glasgow; and the 9 deaths from diphtheria included 7 in Glasgow and 2 in Edinburgh. The death from "fever," was certified as cerebro-spinal fever, and occurred in Glasgow. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 68, 108, and 115 in the three preceding weeks, further rose to 195 last week, and exceeded by 59 the number registered in the corresponding week of last year. The causes of 27, or 3·8 per cent., of the deaths in the eight towns last week were not certified or not stated; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 0·9 per cent.

HEALTH OF IRISH TOWNS.

In 22 town districts of Ireland, having an estimated population of 1,142,308 persons, 596 births and 439 deaths were registered during the week ending Nov. 20th. The mean annual rate of mortality in these towns, which had steadily increased in the four preceding weeks from 14·8, to 19·2 per 1000, further rose to 20·0 in the week under notice.

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING OCTOBER, 1909.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1909.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.									Death from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.		
LONDON	4,833,938	4	1369	351	1	82	—	19	371	2	2399	6·5	—	32	28	38	44	—	15	—	167	325	0·9	4197	11·3	115
West Districts.																										
Paddington	151,965	—	60	20	—	3	—	1	13	—	97	8·3	—	—	—	—	—	—	2	—	2	4	0·3	113	9·7	109
Kensington	183,683	—	46	14	—	1	—	1	7	—	69	4·9	—	—	—	—	1	—	—	—	7	8	0·6	144	10·2	150
Hammersmith	125,704	—	29	15	—	1	—	—	8	—	53	5·5	—	—	—	2	—	—	—	—	5	8	0·8	119	12·3	160
Fulham	176,406	—	39	24	—	3	—	1	7	—	74	5·5	—	—	—	—	—	—	1	—	13	20	1·5	142	10·5	124
Chelsea	75,249	—	17	16	—	1	—	—	4	—	38	6·6	—	—	—	5	2	—	—	—	1	5	0·9	62	10·7	107
City of Westminster	168,883	—	38	23	—	3	—	1	5	—	70	5·4	—	—	2	1	—	—	—	—	3	6	0·5	137	10·6	126
North Districts.																										
St. Marylebone	126,027	—	38	10	—	3	—	—	12	—	63	6·5	—	—	—	—	1	—	—	—	5	6	0·6	93	9·6	61
Hampstead	94,185	—	13	1	—	1	—	—	3	—	18	2·5	—	—	—	—	—	—	1	—	—	1	0·1	50	6·9	81
St. Pancras	237,422	1	56	25	—	6	—	1	8	—	97	5·3	—	—	1	—	—	—	2	—	5	8	0·4	217	11·9	138
Islington	351,202	—	107	29	1	2	—	—	20	—	159	5·9	—	—	4	3	1	—	1	—	7	18	0·7	310	11·5	86
Stoke Newington	54,423	—	3	5	—	—	—	1	5	—	14	3·4	—	—	—	—	—	—	—	—	2	2	0·5	42	10·1	127
Hackney	237,601	—	50	18	—	2	—	—	24	—	94	5·2	—	1	1	2	2	—	—	—	5	11	0·6	183	10·0	101
Central Districts.																										
Holborn	53,802	—	9	5	—	2	—	—	4	—	20	4·8	—	—	—	1	—	—	1	—	—	1	0·2	49	11·9	83
Finsbury	96,289	—	26	18	—	3	—	—	20	—	67	9·2	—	—	—	—	—	—	1	—	10	11	1·5	117	16·0	150
City of London	18,193	—	1	2	—	—	—	—	—	—	3	2·1	—	—	—	—	—	—	—	—	1	2	1·4	17	12·2	63
East Districts.																										
Shoreditch	114,802	—	19	19	—	3	—	1	15	—	57	6·5	—	3	1	3	2	—	—	—	12	21	2·4	136	15·4	161
Bethnal Green	131,316	—	48	10	—	1	—	1	19	—	79	7·8	—	4	5	1	2	—	1	—	10	23	2·3	140	13·9	165
Stepney	312,525	3	81	45	—	10	—	1	50	—	190	7·9	1	10	2	5	5	—	1	—	10	34	1·4	330	13·8	129
Poplar	171,965	—	57	11	—	7	—	2	15	—	92	7·0	—	6	—	1	6	—	—	—	13	26	2·0	162	12·3	150
South Districts.																										
Southwark	211,125	—	64	21	—	2	—	—	22	—	109	6·7	—	—	—	3	3	—	—	—	9	15	0·9	228	14·1	149
Bermondsey	127,569	—	25	12	—	1	—	1	12	—	51	5·2	—	—	2	—	1	—	—	—	9	12	1·2	153	15·6	162
Lambeth	324,188	—	116	31	—	6	—	1	16	—	170	6·8	—	2	4	3	3	—	1	—	5	18	0·7	271	10·9	94
Battersea	186,036	—	58	22	—	7	—	—	11	1	99	6·9	—	—	1	—	2	—	2	—	11	16	1·1	160	11·2	134
Wandsworth	297,646	—	59	27	—	4	—	3	13	—	106	4·6	—	2	1	1	3	—	1	—	5	12	0·5	210	9·2	88
Camberwell	283,022	—	76	24	—	3	—	—	22	—	125	5·8	—	—	1	1	4	—	1	—	9	15	0·7	236	10·9	118
Deptford	118,583	—	29	20	—	1	—	1	8	—	59	6·5	—	—	—	—	3	—	—	—	2	5	0·5	85	9·3	84
Greenwich	111,014	—	28	16	—	3	—	1	9	1	58	6·8	—	1	—	1	—	—	—	—	3	5	0·6	84	9·9	100
Lewisham	160,749	—	103	46	—	3	—	—	12	—	164	13·3	—	—	2	2	1	—	—	—	1	6	0·5	109	8·8	104
Woolwich...	133,374	—	74	21	—	—	—	1	7	—	103	10·1	—	—	1	1	2	—	—	—	2	6	0·6	98	9·6	75
Port of London	—	—	—	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

During the first seven weeks of the current quarter the annual death-rate in these Irish towns averaged 16·9 per 1000, whereas the mean death-rate during the same period did not exceed 13·0 in the 76 largest English towns, and 14·5 in the eight principal Scotch towns. The annual death-rate last week was equal to 23·6 in Dublin (against 14·7 in London), 18·1 in Belfast, 21·9 in Cork, 23·0 in Londonderry, and 17·8 in Limerick; the mean rate in the 16 smallest of the Irish town districts last week was equal to 18·5 per 1000. The 439 deaths from all causes in the 22 town districts last week showed a further increase of 10 upon the numbers in the four preceding weeks, and included 18 which were referred to the principal epidemic diseases, against 26, 21, and 20 in the three preceding weeks; these 18 deaths were equal to an annual rate of 0·8 per 1000; in the 76 English towns the mean rate from the same diseases last week was 0·9, and in the eight principal Scotch towns was 2·2 per 1000. The 18 deaths from these epidemic diseases in the Irish towns last week included 7 from diarrhœa, 6 from whooping-cough, 3 from diphtheria, and 1 each from scarlet fever and "fever" (enteric), but not one either from measles or small-pox. The 7 deaths attributed to diarrhœa showed a further decline from the numbers in recent weeks, and included 2 both in Dublin and in Belfast. The 6 fatal cases of whooping-cough exceeded by 1 the number in the previous week; 4 occurred in Belfast and 2 in Dublin. Of the 3 deaths from diphtheria, 2 were returned in Dublin and 1 in Newtownards. The fatal case of scarlet fever occurred in Belfast, and that of enteric fever in Cork. The deaths referred to pneumonia and other diseases of the respiratory system, which had steadily increased from 50 to 88 in the four preceding weeks, further rose to 110 last week. The causes of 14, or 3·2 per cent., of the deaths registered in these Irish towns last week were not certified by a registered medical practitioner or by a coroner; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 0·9 per cent., and in the eight Scotch towns the proportion was 3·8 per cent.

VITAL STATISTICS OF LONDON DURING OCTOBER, 1909.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 6·5 per 1000 of the population, estimated at 4,833,938 persons in the middle of the year; in the three preceding months the rates were 6·4, 5·0, and 7·1 per 1000 respectively. The lowest rates last month were recorded in Kensington, Hampstead, Stoke Newington, Holborn, the City of London, and Wandsworth; and the highest rates in Paddington, Finsbury, Bethnal Green, Stepney, Lewisham, and Woolwich. During last month 4 cases of small-pox were notified, of which 3 belonged to Stepney and 1 to St. Pancras. The prevalence of scarlet fever showed a marked decline last month; among the several metropolitan boroughs this disease was proportionally most prevalent in Paddington, Bethnal Green, Poplar, Lambeth, Lewisham, and Woolwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals at the end of last month was 2708, against 2628, 2329, and 2717 at the end of the three preceding months; the weekly admissions averaged 325, against 358, 274, and 394 in the three preceding months. Diphtheria was slightly more prevalent than it had been in the preceding month; this disease was proportionally most prevalent in Finsbury, Shoreditch, Deptford, Lewisham, and Woolwich. The Metropolitan Asylums Hospitals contained 958 diphtheria patients at the end of last month, against 890, 795, and 901 at the end of the three preceding months; the weekly admissions averaged 119, against 107, 83, and 119 in the three preceding months. The prevalence of enteric fever showed a decline last month; the greatest proportional prevalence of this disease occurred in Holborn, Finsbury, Stepney, Poplar, and Battersea. There were 78 enteric fever patients under treatment in the Metropolitan Asylums Hospitals at the end of last month, against 60, 55, and 75 at the end of the three preceding months; the weekly admissions averaged 11, against 7, 10, and 13 in the three preceding months. Erysipelas was proportionally most prevalent in Hackney, Finsbury, Shoreditch, Bethnal Green, Stepney, and Southwark. The 19 cases of puerperal fever notified during the month included 3 in Wandsworth and 2 in Poplar. Of the 2 cases notified as cerebro-spinal meningitis 1 belonged to Battersea and 1 to Greenwich.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in institutions having been distributed among the several boroughs in which the deceased persons had previously resided. During the four weeks ending Oct. 30th the deaths of 4197 London residents were registered, equal to an annual rate of 11·3 per 1000; in the three preceding months the rates were 10·2, 10·5, and 11·5 per 1000. The lowest death-rates last month were 6·9 in Hampstead, 8·8 in Lewisham, 9·2 in Wandsworth, 9·3 in Deptford, and 9·6 in St. Marylebone and in Woolwich; the highest rates were 13·8 in Stepney, 13·9 in Bethnal Green, 14·1 in Southwark, 15·4 in Shoreditch, 15·6 in Bermondsey, and 16·0 in Finsbury. The 4197 deaths from all causes included 325 which were referred to the principal infectious diseases; of these, 1 resulted from small-pox, 32 from measles, 28 from scarlet fever, 38 from diphtheria, 44 from whooping-cough, 15 from enteric fever, and 167 from diarrhœa. The lowest aggregate death-rates from these diseases last month were recorded in Paddington, Westminster, Hampstead, St. Pancras, Stoke Newington, Holborn, Wandsworth, Deptford, and Lewisham; and the highest rates in Fulham, Finsbury, Shoreditch, Bethnal Green, and Poplar. The fatal case of small-pox belonged to Stepney. The 32 fatal cases of measles showed a decline of 25 from the corrected average number in the corresponding period of the five preceding years; this disease was proportionally most fatal in Stoke Newington, Shoreditch, Bethnal Green, Stepney, and Poplar. The 28 deaths from scarlet fever were 23 fewer than the corrected average number; the greatest proportional mortality from this disease was recorded in the City of Westminster, Islington, Bethnal Green, Bermondsey, Lambeth, and Lewisham. The 38 fatal cases of diphtheria showed a decline of 14 from the corrected average; the highest death-rates from this disease were recorded in Hammersmith, Fulham, Chelsea, Shoreditch, Stepney, and Southwark. The 44 deaths from whooping-cough were slightly fewer than the corrected average number; this disease was proportionally most fatal in Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, Deptford, and Woolwich. The 15 deaths from enteric fever were less than one-half of the corrected average number, and included 2 belonging to Paddington, 2 to St. Pancras, and 2 to Battersea. The 167 fatal cases of diarrhœa were 115 below the corrected average number; this disease was proportionally most fatal in Fulham, Finsbury, Shoreditch, Bethnal Green, Poplar, and Bermondsey. In conclusion, it may be stated that the aggregate mortality in London last month from these principal infectious diseases was 37·3 per cent. below the average.

Infant mortality, measured by the proportion of deaths under one year of age to registered births, was equal to 118 per 1000. The lowest rates of infant mortality were recorded in St. Marylebone, Hampstead, Holborn, the City of London, Deptford, and Woolwich; and the highest rates in Kensington, Hammersmith, Finsbury, Shoreditch, Bethnal Green, Poplar, and Bermondsey.

PRESENTATION TO A MEDICAL MAN.—In addition to the case of eye instruments, field glass, and fountain pen presented to Mr. Randal Herley by members of the different departments of the Dewsbury and District General Infirmary, which we announced in THE LANCET of Nov. 20th, p. 1558, our attention has been called to the fact that the members of the board added to the presents a large ophthalmic trial case.

DONATIONS AND BEQUESTS.—The secretary of the National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury, has received two anonymous gifts, one of £5000 to the special jubilee fund, and one of £2000 for the general fund.—Mrs. Wheeler has made a gift of £600 to the Earl of Beaconsfield Memorial Cottage Hospital at High Wycombe, in memory of her husband, the late Mr. Robert Drew Wheeler.

THE SERVICES.

ARMY MEDICAL SERVICE.

Colonel Owen E. P. Lloyd, V.C., to be Surgeon-General, vice W. Donovan, C.B., retired (dated Nov. 17th, 1909). Brevet-Colonel Tom P. Woodhouse, from the Royal Army Medical Corps, to be Colonel, vice O. E. P. Lloyd, V.C. (dated Nov. 17th, 1909).

ROYAL ARMY MEDICAL CORPS.

Lieutenant Colin Cassidy is seconded for service with the Egyptian Army (dated Oct. 14th, 1909).

INDIAN MEDICAL SERVICE.

The King has approved of the following promotions among officers of the Indian Medical Service:—Majors to be Lieutenant-Colonels (dated Sept. 30th, 1909): Henry Bruce Melville, Joseph Charles Stoelke Vaughan, Alexander Leonard Duke, Joshua Chaytor-White, John Blackburn Smith, Henry Francis Cleveland, and Charles Henry Bedford. Lieutenant to be Captain (dated Sept. 1st, 1909): Shumshere Singh.

The King has approved of the retirement of the following officer:—Lieutenant-Colonel Julian Carter Carington Smith (dated August 7th, 1909).

TERRITORIAL FORCE.

Royal Army Medical Corps.

Eastern Mounted Brigade Field Ambulance: Meredith Sedgwick Doubble to be Lieutenant (to be supernumerary) (dated Oct. 30th, 1909).

London Mounted Brigade Field Ambulance: Major Martin Alfred Cooke, from the list of officers attached to units other than Medical Units, to be Major (dated June 20th, 1909).

Highland Mounted Brigade Field Ambulance: John Macpherson Grant to be Lieutenant (dated Oct. 19th, 1909).

3rd London (City of London) Field Ambulance: Lieutenant George L. L. Lawson to be Captain (dated August 22nd, 1909).

Attached to Units other than Medical Units.—Lieutenant-Colonel and Honorary Surgeon-Colonel Robert L. Sparrow resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated Oct. 31st, 1909).

THE SPANIARDS IN MOROCCO.

In the *Times* of Nov. 18th a special correspondent at Melilla, telegraphing on Nov. 17th, describes the hospital administration, which he says it is impossible to praise very highly. The main base hospital is at Malaga, where all, except dangerous cases, are shipped. At the advanced base hospital at Melilla the accommodation is inadequate. With the exception of the base accommodation and the forwarding of cases, the treatment of the sick and wounded is good and the surgery is beyond reproach. There has been much enteric fever, pneumonia, and dysentery, but malaria has not been so prevalent as was anticipated.

DEATHS IN THE SERVICES.

Deputy Inspector-General Thomas Seccombe, R.N. (retired), at his residence in Granville Mansions, Torquay, on Nov. 19th, in his ninety-first year. He entered the Royal Navy as assistant surgeon in 1845, became staff-surgeon eight years later, and in 1867 was promoted to fleet-surgeon. In 1880 he retired with the rank of deputy inspector-general of hospitals and fleets. The deceased officer served as surgeon to the native levies during the Kaffir War of 1851; he was present at almost all of the skirmishes of this campaign (Kaffir medal). He was in charge of the field hospital at the taking of Rangoon (Burmese medal), and he also served in several of the boat campaigns (mentioned in despatches).

Lieutenant-Colonel Frederick James Crawford, I.M.S., on board the steamer *Herefordshire*, near Suez, on Nov. 5th, aged 45 years. He entered the service as assistant surgeon in 1887 and reached the rank of lieutenant-colonel in 1907. He was the principal of the Madras Medical College and had been district surgeon of Ganjam.

Correspondence.

"Audi alteram partem."

OSTEITIS DEFORMANS.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Nov. 13th is an annotation on the subject of "Osteitis Deformans," wherein it is stated "that Sir James Paget first described that form of chronic inflammation of the bones which bears his name." This was in the year 1876, and his paper may be found in the volume of the Medico-Chirurgical Transactions of the following year. He described it as a rare disease and spoke of it as the first which had been under his care. He then gave an account of it and added others from various sources, and amongst them was one of my own in which I had taken specimens of the bones to the Pathological Society. The account is to be found in the Pathological Transactions for the year 1869. I called the case "osteoporosis," or spongy hypertrophy of the bones. I so named it because it was the word on the labels attached to some old specimens in the museum of Guy's, and which evidently belonged to a case of this disease, shown by the enormously thickened skull and the large and crooked long bones of the limbs. In giving my lectures in 1857 I commented on these bones and said I did not think they arose from an inflammatory process because I could find no new osseous tissue either on their surface or interior, and therefore I considered the name to be most excellent. I believe it was also used on the continent. When, therefore, an example of the same disease came under my own notice I called it "osteoporosis," and more especially as I discovered no new osseous tissue either as ostitis or periostitis. I think now a better name would be "osteoporosis deformans." I may add that in the second edition of my book on pathological anatomy I gave a description of this case. This was two years before the appearance of Paget's paper. I have given these particulars because this different name is the sole cause of my writing this letter. The patient came under my care from being called in by a medical man at Camberwell. The patient, a gentleman, aged 60 years, had consulted all the leading men in London, and he had also visited me. When he was too ill to leave home I was asked to see him occasionally. After his death his friends, knowing it was a rare and important case, gave me *carte blanche* to take away some of the bones for examination.

The report in the Pathological Transactions says that the post-mortem examination was made on Jan. 13th, 1869, and that I was assisted by Mr. Goodhart, house physician of Guy's Hospital, and he it was to whom I am indebted for the long description which he gave me. I wrote a few days ago to Dr. Goodhart at Portland-place, and he answers me on Nov. 14th by saying, "I remember the case well. I made the 'post-mortem' somewhere down in Camberwell with a man named Massey, and I brought away the vault of the skull, a femur, and some other things which ought to be in the museum. There are specimens in Guy's museum long before our time, and Paget summed up all the cases and called the disease 'osteitis deformans.'"

I may be allowed to say in conclusion that personally the question of originality is of very little moment and of no importance to most medical men, but there are those who are bibliographers and historians who would altogether miss the first account of the disease if they looked for its usual name. I am also instigated in writing for the sake of Dr. Goodhart, who was the first who carefully examined the bones and their structure, giving also their measurements and weights. I may add that Dr. Goodhart is quite ignorant of my writing this letter. I trust also that the thought will not arise in anyone that I am suggesting a dishonourable act on the part of Sir James Paget, for this would have been impossible for my old friend; indeed, his method was the usual one and the most correct—to take a number of cases of a remarkable disease, discuss its nature, and give it, according to his views, the most apposite name.

I am, Sir, yours faithfully,

Hampstead, Nov. 20th, 1909. SAMUEL WILKS.

BRAIN AND MIND.

To the Editor of THE LANCET.

SIR,—I do not think Dr. Mercier's article on the above subject gets quite down to the fundamental problem. Brain is ultimately "matter" and mind is "mind." We do not, as Dr. Mercier says, know whether matter is real or is only an assumption, but for practical purposes we are bound to assume its reality. Accepting the assumption we are bound to agree to Hobbes's dictum that our senses are affected only by motions of matter, or perhaps more simply by motion. All speculations and judgments by which we reduce things to categories are therefore inferences from the stimulus of motions, the only perceptible differences being the diverse modes of the motion which impinge upon us. Natural science is pre-eminently the classification of impinging motions and generalisations based thereupon. One of these generalisations is our concept of "life."

Physics, including chemistry, reveals the law of proportion as between causes and effects; given the components the resultant can be calculated in advance; the motions of matter are one vast phenomenon of absolute mechanical predestination. But we also observe certain motions of matter which can only be regarded as evidence of self-determination; certain masses of matter exhibit motions which tend to self-preservation and are not accurately calculable. We say that the lumps of matter which exhibit this mode of motion are "alive." We might formally define the phenomena of life as "self-determined motion." But self-determination is flatly contradictory to the physical laws of motion, and so the definition is a contradiction in terms: it is nonsense, or perhaps better, paradox. And yet it is true to the facts. The three hypotheses described by Dr. Mercier are, if this be right, merely attempts to reduce to logically consistent language phenomena which can be described only in terms of paradox. Such attempts are necessarily doomed to failure.

The special phenomenon of a differentiated nervous system seems to me to be an irrelevancy. The neurons are only cells so shaped that juxtaposition to certain other cells can be attained in spite of anatomical distance. The problem of the relation of self-determination to material motion is essentially an intra- not an intercellular problem, and therefore is the same in a *protozoon* as in a vertebrate, and it would seem that the *protozoon* would be the better type to study on account of its simplicity, *supposing the difficulties to lie in the phenomena.* But it seems to me that they do not, but that the difficulty is subjective. "Mind" and "matter" or self-determination and motion are subjectively distinct and irreconcileable categories. Monists assert that they meet in a higher category, but that category has not yet been described. However, although we can have no inkling of the relation of these paradoxical phenomena (calling some of them "epiphenomena" seems to me no help at all), we know that there *is* relation. We know that mind can disturb the predestined order of motion, and that motion can affect mind; and within certain limits we know what the effect will be. We may therefore discover empirically the motions of matter which will impinge beneficially on a disordered mind, and the mental states which have an integrating effect on a disordered body. This for practical purposes is all we want to know.

Therapeutics is a sensible science not too proud to work machinery whose laws it does not understand.

I am, Sir, yours faithfully,

F. CLAUDE KEMPSON, M.B. Cantab.,
Demonstrator of Anatomy in the University of Cambridge.

Manea Vicarage, March, Cambs., Nov. 15th, 1909.

To the Editor of THE LANCET.

SIR,—On reading Dr. Charles Mercier's interesting article in THE LANCET of Nov 13th it occurred to me that the attention of psychologists might be advantageously directed to the following suggestions as to the relation of matter to mind.

It has been suggested that the brain is the organ by which the mind can "appreciably" affect matter. Might I by analogy explain what is meant? Take magnetism. If we had no iron, nickel, or cobalt available in this world the knowledge of magnetism would have been much less developed, because the earth's magnetism is not "appreciable" to our unaided senses; a piece of copper, for instance, showing no appreciable change when rotated in the earth's magnetic field. It is perfectly practicable, however, by means of drawing out the copper to a fine wire and constructing with it various coils[1] to demonstrate to anyone the fact that the earth is a magnet. Thus we see that arrangement of material raises "inappreciable" effects to "appreciable" effects.

Again, our skin is not conscious of light (heat rays should be removed by solution of alum screen), although there is a reaction, for pigment is slowly deposited. That is to say that light is not "appreciated" by our skin. The retina, however, on account of its "peculiarity" of chemical and physical structure is able to appreciate light without artificial aids. Again, it is the chemical and physical constitution of certain cells in the tongue which enable taste to be "appreciated." We cannot taste with our *hands!* The same with sense of smell. Taking these last two senses, no other of our senses can discriminate the molecular constitution of substances, but the "peculiar" chemical and physical arrangement of "smell organ" and "taste organ" not only enables minute,[2] almost incalculably small, particles of matter to be differentiated and their nature recognised, but renders even the *internal* arrangement of a molecule to be "appreciable." I may instance the different odours of the ortho-, meta-, and para-compounds, only differing in the positions of identical side-chains of the benzene-ring compounds.

Have I said enough to make clear the following—namely, that the brain with its "peculiar" chemical and physical constitution may be the organ for rendering "appreciable" the action of mind? Mind may be an existing "something," whether of the nature of light or magnetism or of attenuated matter. Perhaps there is a so-called "soul" which may be a perfectly real existing thing which, however, is not "appreciable," or rather does not "appreciably" affect matter except when the "peculiar" chemical and physical structure, the brain, is able to be affected, and when the nerves and muscles are functionally connected with the brain. Thus, magnetism is existent and all matter is affected minutely by magnetism, but it is only three metals and certain physical arrangements of other metals which render magnetism "appreciable."

Again, light is existent and all matter is affected more or less, but it is the chemical and physical structure of the retina which renders it "appreciable." By analogy it is suggested, therefore, that the soul may be a thing which is in relation with the physical universe and probably can affect all matter to a very slight degree, but that as the brain has developed through the ages, its function as the "mind organ" has been the "motif," or, in other words, the path of progress. I myself would take the beginnings of the "mind organ" back to a very remote period as by analogy we refer the beginnings of our "light organ" to the black spot on the nervous system of the amphioxus.

I am, Sir, yours faithfully,

Herne Bay, Nov. 14th, 1909. R. C. T. EVANS.

To the Editor of THE LANCET.

SIR,—Dr. Mercier's article on this subject is very interesting, and, as a peaceless practitioner, one wishes for the time to treat all its many points with the thoughtful and critical consideration that they call for. The three cases that he claims as being on all fours, are they not rather at sixes and sevens? Dr. Mercier would have us believe that the colour of an object is not part of the object. Really the word "colour" stands for two separate facts. It has been supposed that colour means only the sensation caused by those attributes of any substance which produce the effects of red, green, &c., in the mind. But because we understand the method of the transmission of rays producing the sensation of blue, and because we know much of the mechanism of the organ concerned in the receptivity and something, too, of the organ employed in the interpretation of those rays, because we have some understanding of these things, what right have we to say that a lapis lazuli is not innately, intrinsically, and of itself in every degree of light of a blue colour whether it be beheld or not?

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[1] A delicate galvanoscope can be constructed by suspended coils, no magnetic needle being required.

[2] See experiments by Professor and Mrs. Ayrton.

It does not follow that because in respect to our knowledge of a phenomenon we can point to a plus sign that therefore there exists as a consequence of that knowledge a minus sign in any portion of that phenomenon. The object is none the less coloured because we know the method of its appeal to the senses. The colour of an object (i.e., those attributes compelling the eye to a cognition) is undoubtedly in the object; the name of it, its memorial associations, and the accident of its observation only, belong to the individual seeing the object. Dr. Mercier means by colour apparently the phenomena of cognisance, whereas the word used to be, and may legitimately yet be applied to that characteristic of an object which compels its cognisance.

Is mind a function of the brain? Assuredly it is one of the functions of the neurons which make up the essential and distinctive part of the brain. Mind—which is perhaps more accurately and better expressed by the word "mentation," which, carrying with it fewer connotations, is therefore less confusing—has never been proved to exist apart from protoplasmic matter. Nothing like the same amount of proof is forthcoming with regard to mentation unconnected (in its origin and manifestation) with matter as exists of the intimate connexion of mentation with protoplasm. As regards the existence of mind apart from matter, the whole gamut of mental and physical phenomena has been gone through time and time again, without even the fourth-rate success of inferential proof drawn from the admittedly weak process of reasoning by analogy.

The importance of the absolute necessity of neurons to the phenomenon of mentation is in no way weakened by the fact that neurons perform duties which cannot be spoken of as mind effects. If Dr. Mercier admits that neurons functionate by receiving, storing, and liberating motions, and that, a step further, they do these things in a discriminatory manner, where is the difficulty in admitting several steps further in development—viz., the mentation of the lower animals? Admitting this, there can be no difficulty in associating the highest efforts of mentation with neurons, and with neurons alone. Certainly, the mentation of a Shakespeare is a different thing from the mentation of a low vertebrate, but the difference is only a difference in the degree of complexity. Given a higher complexity of tissue—a complexity which may be so infinitesimal in its details as to be unrevealable by any method at present at our disposal—a functional complexity must result which, increasing dynamically, may be even more distant from whatever unit might be adopted than 999 to the 999th power is from 1. A difference in the degree of complexity does not necessitate such a difference in kind as is implied when one admits discriminatory functioning of the neurons, but disallowing mentation as a functioning of the same nervous structures classes it as a universe to itself. *Ex nihilo nihil fit*, and if mind (or the mentation process) be disparate from all material things, whence does it originate? What platform does it operate from? If the brain be its station of arrival, where may we look for the station of departure, and by what lines has it travelled from the terminus it set out from?

The idea that mind is a thing apart from, and entirely independent of, matter owes its ready and unquestioned acceptance because it harmonises somewhat with the faith we have inherited from our forefathers. The scientific method is to work from the known to the unknown. It is unscientific (though as a metaphysical exercise highly entertaining) to form first a theory based in this instance on the crude theologies of early civilisations and then endeavour to handle facts so that they may support the hypothesis that harmonises best with these assertions of crude primal folk-faiths. The method that offers the most certain solution of the problems of brain and its mentation processes is to study them with the idea that mentation is a highly specialised nervous action, that nervous action is a function of neurons, that neurons are protoplasmic masses of a particular structure, and that the action or function which invariably accompanies that structure is due to that structural peculiarity. The proposition that mind is the resultant of structural peculiarity and environmental adaptation of certain elements in chemical and mechanical combination has never received its due attention as a working hypothesis. When propounded by the more matter of fact and practical of the school of materialists it was received with as much withering (if only scornful) treatment as Galileo had meted out to him. It may prove eventually to be the main index to that explanation of the connexion of mind with matter which Dr. Mercier somewhat pessimistically says will in all likelihood never be known.

Points which need working out in connexion with protoplasm are the proportions of negative and positive particles of electricity, the allotropic modifications of the elements composing protoplasm, the facetting of the molecules and possibly of the ions, the unexplored chemical combinations of carbon with water, &c. Any of these or all in varying degrees may be intimately and particularly concerned in the processes of mentation. The field which, however, offers the greatest finds for the present is subconscious mentation, the automatic digestion of facts without any conscious participation. In the meantime, while these fields are being worked, let us discuss the interesting points with which Dr. Mercier's article teems.—I am, Sir, yours faithfully,

J. HAMBLEY ROWE, M.B., C.M. Aberd.

Bradford, Nov. 20th, 1909.

THE THERAPEUTICS OF SUGGESTION.

To the Editor of THE LANCET.

SIR,—I was much interested to find that in your recent remarks on the therapeutics of suggestion[1] you so definitely differentiated between "suggestion" and "persuasion" as practical therapeutic agents—a differentiation which is apparently endorsed by Dr. Alexander Morison in his philosophic letter last week, where he speaks of the benefit to be derived from "the plain if sympathetic inculcation of common sense, the inspiration of righteous conduct, and, above all, of courage to face and to accept whatever betide." For personally I cannot help thinking that no such distinction would ever be made by anyone accustomed to deal with these mental factors as a matter of everyday routine, and for the following reasons.

Persuasion consists of a verbal appeal to a patient's mind by which he is eventually convinced that certain ideas he has held are erroneous, and consequently alters his outlook on life and his conduct accordingly; it is thus pre-eminently suited to the treatment of abnormal mental states, such as are associated with psychasthenia and very early insanity. Thus a man who has a growing notion that his friends are conspiring against him, or that his life and work are valueless, may be persuaded by persistent argument that such ideas are erroneous, and be actually saved from the threatening breakdown by a series of conversations conducted with a definite therapeutic object. I have seen such things done. And what happens under these circumstances is that a new idea is insinuated into the patient's mind which either dominates or overcomes the pathological one. Now this satisfies the definition of "suggestion," and I therefore argue that "persuasion" does not essentially differ from "suggestion," but is merely that form of suggestion which is most suitable for use in the treatment of certain mental conditions. On the other hand, supposing that one has to deal with pain of functional origin, we know that it is useless to try to *persuade* the patient that the pain is not there; if a patient says he has a pain in his head, for example, experience tells us that we cannot under ordinary circumstances *persuade* him that he has not. But it is well known to those who have any practical knowledge of suggestive therapeutics that some pains can be relieved by an appeal to the patient's mind either by confidently spoken words, or through the stimulus of, say, a mild faradic current; the curative idea being thus *suggested* to the patient, whose mind is to all intents and purposes *persuaded* to accept the idea of freedom from pain.

If I may so put it, I think that both the writer of your remarks on the therapeutics of suggestion and Dr. Alexander Morison have meant to express the same thing, but have confused the issue through unfamiliarity with the technique of suggestive therapeutics. And what they have intended to express is, I think, that an indirect appeal to the patient's higher faculties, as, for example, through the medium of a conversation, is much to be preferred to anything in the nature of a "sitting" or "séance" in which the patient has to come into more than ordinarily close relations with the physician, or in which various manual manipulations play a

[1] THE LANCET, Nov. 13th, 1909, p. 1446.

leading part, and with such a view I am entirely in accord. But I must point out that, with the exception of some mental conditions, unless such an appeal is accompanied by some material form of treatment it will fail in most cases. I am stating this as a matter of practical experience, not of theory. Moreover, there is no reason why the material means used to support the suggestion should not be such as to possess a therapeutic efficacy of its own; indeed, I have repeatedly upheld the view that it is in such combinations that suggestion should find its rational place in our therapeutic armoury.

The mystery with which suggestive therapeutics is often surrounded, the induction of the hypnotic state which is by some considered to be an essential accompaniment of suggestion in treatment, the laying-on of hands and other manipulations in use, all act in the same way, I believe—namely, by impressing the patient with the idea that he is being subjected to some extraordinary curative force, and so strengthening in this way the suggestions made, not by any specific virtues of their own. And if the same result can be brought about, as I am quite satisfied that it can be, by methods more in accordance with our notions of what a medical man's work should be, I think that most practitioners will be in agreement that it is time that the more mysterious, and indeed more doubtful, adjuncts of suggestive therapeutics were dropped once and for always.

It is my hope that those who have at heart the development of the better side of suggestive therapeutics, not as a specialty or specific but as an adjunct of routine treatment, will come forward in support of the views I am here expressing, and which have, I think, in intent been expressed both in your valuable comments on the subject and in Dr. Morison's letter.

I am, Sir, yours faithfully,

EDWIN L. ASH, M.D. Lond.

Harley-street, W., Nov. 21st, 1909.

OXALURIA.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Nov. 6th there was an interesting paper by Dr. R. Maguire upon this subject, and a large part of it is taken up with the endeavour to prove that the condition when mild is due to "a disorder in metabolism," "an accident or incident in the metabolism of carbon," but when more severe to "an exaggerated production accompanied by nervous and dyspeptic symptoms," and he cites a case which he thinks supports his hypothesis, but I would suggest that there is not much which bears it out, and that the oxaluria can be explained in another way. Anyone who frequently examines urinary deposits with the microscope will know how very commonly crystals of oxalate of lime are found, and these are not always (as Dr. Maguire himself allows) accompanied by nervous and dyspeptic symptoms even in the severe cases where oxalic calculi form. In my experience in a general practice such symptoms are quite uncommon; the one complaint which patients sometimes make in the cases without calculi is slight pain in the course of a ureter; as a rule, there is no other sign of ill-health, even in calculous cases. Therefore, oxaluria and dyspepsia may occur separately or together, and when together I believe they are a coincidence and not cause and effect, and my reason for this belief is that in my clinical experience the urine can always be cleared of oxalate crystals by attention to diet alone in a few days. Put the patient on an oxalate-free diet and the urine will soon become free from oxalate crystals. Dr. Maguire mentions that his patient was not relieved by a three weeks' stay at Vichy, but then his diet was composed mostly of vegetables! Not much improvement was to be expected. (By-the-bye, I suppose he was put upon a vegetable diet as a result of the pernicious theory that oxalic acid in the urine is a result of a decomposition of uric acid.) But Dr. Maguire later ordered rest, a change of diet and dilute nitric acid, and the deposit of calcium oxalate in the urine lessened, as he says, "almost *pari passu* with the improvement in digestion," but also, be it noticed, it coincided with a change to "a liberal diet of white meat"—that is, to a more oxalate-free diet. It seems to me that in his case the dyspepsia was due to "mental and physical fatigue," "great overwork, anxiety, and sleeplessness," and the oxaluria was due to error in diet; at any rate, no other hypothesis as to "a disorder in metabolism" is required.

I am, Sir, yours faithfully,

Leicester, Nov. 9th, 1909. REGINALD PRATT, M.D. Lond.

CIVILISATION AND THE CORSET.

To the Editor of THE LANCET.

SIR,—The attention which Mr. W. Arbuthnot Lane has drawn to the benefits of corsets is particularly pertinent, because for some years past they have been strenuously decried by certain exponents as being detrimental to muscular development and to liberty of limb. The fact is, women have found by centuries of accumulated experience that corsets are to them structurally indispensable, whilst modern science has also shown that they are physiologically beneficial.

The women of Egypt, of Greece, and of Rome all wore corsets, and did so for service and not for fashion. These ancient corsets consisted of three parts. First, there was the loin band or zone, which was the essential piece, and was persistently worn; then there was the thoracic band or strophion, which gave mammary support as required; and, lastly, there was the waistband, which intermediated between the other two. It is the conjunction of these three pieces that has given rise to the present corset, in which it is still the loin portion that is indispensable, whilst the other parts are merely adjunctive. And not only have women in all ages and in all climates found the "girding of the loins" to be a necessity, but even men in sultry and atonic countries have acted, and still act, similarly. The ancient Israelite and the Roman legionary were wont to gird their loins for effort, whilst the Indian and the Arabian of to-day still do the same.

But it may be asked, Why is it that all the women of the world as well as the men of tropical races should find such artificial support needed? The answer is that the human abdomen has certain structural disabilities and for obvious reasons. Man, as every morphologist knows, is built on the quadruped pattern. His abdominal organs and their encasement are similar to those of a horse or a dog. If his body was always horizontal, as it is in quadrupeds, then his abdominal organs would have in addition to their peritoneal slings the whole of the anterior walls of the abdomen as a hammock of support. But as man has chosen to become biped and erect this abdominal hammock is no longer available, and the organs, having to depend only on their peritoneal slings, which very easily stretch, tend to gravitate downwards and to unduly huddle against the lower front wall of the abdomen. It is true that "nature" has striven to aponeurotically strengthen this front wall, as, indeed, Sir Astley Cooper pointed out in his work on hernia, and this before Darwin wrote or the term evolution was coined. But up to the present this effort of nature in the roll of centuries is incomplete, and hence it is that the women of all races and the men of certain races have found for themselves the advantages of girding their loins and thereby artificially supporting the lower abdomen. It is scarcely necessary to point out why women need this girding more than men. The extra organ they possess, its situation in the lower abdomen, and its mutability in the exercise of its functions, all point to the need for quietude and steadiness. Nature has ordained that women should breathe pectorally so as not to perturb this abdominal organ, and any artificial support of the incompetent abdominal walls acts also in the direction that nature has indicated. Hence the use of the corset by women is in agreement with the dictates of nature and not contrary to them, as some critics would maintain.

One further point remains. What is the effect of compression over the lower abdomen upon the body generally: is it deleterious or beneficial? The answer to this has been most carefully investigated and given. In 1888 Professor Ray and Professor Adami delivered a conjoint address before the British Association on the "Physiological Bearing of Waist-belts and Stays," as the result of experiments they had made not only on humanity but also upon animals. Without going into the details (which are available in the volume of Proceedings), they found that a large amount of waste blood lay in the abdominal viscera, and that if these latter were gently compressed by a corset this

stagnant blood was driven into the general circulation and by being brought into service in the other parts of the body conduced to an increased muscular and mental activity. And they finally showed that all the physiological facts collected in their experiments explained "the beneficial and extensive use of some form or other of waist-belt by all nations who had passed beyond the stage of absolute barbarity." It will be observed that these gentlemen took no cognisance of the structural matters to which I have previously alluded, but simply investigated the result of abdominal compression as reacting on the body generally, and they found it beneficial. Moreover, they found that it increased muscular activity, a fact that disposes of the contentions of the gymnastic critics.

Having now given the reasons why corsets are needed, as well as the grounds on which they are beneficial, there remains to indicate what constitutes a proper corset from the medical as apart from the fashionable point of view. A proper corset should firmly support the loins and the lower abdomen, following in this respect the loin band or zone of the ancients. The waist should not be constricted nor should the stomach be unduly pressed upon, otherwise its churning of food in digestion will be checked. The top of the busk should not impinge on the lower end of the sternum, otherwise respiration will be interfered with. The corset may support the breasts if these are pendulous, otherwise it should fit but loosely to them. And it should fit closely and evenly along the back. If the textile portions of the corsets are thus rightly fitted, then certain supporting bones can be incorporated where needed, or even, as in the case of corsets that are worn for deformity, certain surgical adjuncts may be attached, and this without detriment to correctness of fit. If a medical man is called upon to give his opinion on a corset he should always see that he is able to pass his hand in front between the corset and the body down as far as the waist, thereby indicating that there is no undue pressure upon the parts traversed.

So much then for the rationale and rightness of corsets, but a further note or two may be of interest. When the long straight-fronted corsets of a few years since were in vogue I noted the common occurrence of what might be termed "corset dyspepsia," the stomach being so unduly pressed upon that it could not stir nor digest its contents. This malady did not attract medical attention, probably because with a change of the fashion it disappeared with its cause. Another interesting fact is that tight-lacing is no longer the vogue. Statistics on this point were collected by the *Drapers' Record*, whose editor obtained returns from the principal manufacturers of corsets as to the waist measures demanded by the public. He commenced the inquiry in 1896, and has tabulated them up to a recent date. It is satisfactory to find that there has been a considerable increase in the waist measurement, although it is to be feared that this is rather due to changes in fashion than to medical warnings. Fashion has naturally controlled the shape of corsets, not only now, but in previous centuries.

I am, Sir, yours faithfully,

Wimpole-street, W., Nov. 22nd, 1909. HEATHER BIGG.

To the Editor of THE LANCET.

SIR,—It is refreshing to find the voice of common sense joined to the voice of authority in Mr. W. Arbuthnot Lane's paper on Civilisation and the Corset in your issue of Nov. 13th. The corset of the present day—the "erect or American" corset—is the exact counterpart of the cast iron arrangement of our mothers. I tabulate the differences as follows:—

Old Corset.	*Erect Corset.*
Back.—Rigid and straight; did not accommodate curves of spine; produced slouching.	Back.—Flexible; renders spine erect.
Front.—Curved to form small waist.	Front.—Straight, simulates rectus muscle.
Height in front.—Extended to above level of nipples, compressing the whole of thorax and squeezing in lower ribs.	Height in front.—Only extends to ensiform cartilage; leaves thorax free.
Depth in front.—Too short; compressed viscera of abdomen which protrude below the stays.	Depth in front.—Extends downwards to pubes; includes and supports abdominal viscera; shields abdomen.

So well does an erect corset support the abdomen that for some time I have been in the habit of sending patients to the corset-fitting room of good drapers whom years ago I should have sent to an instrument maker for abdominal belts.

For the benefit of the uninitiated I would remark that the corsets need to be properly adjusted. The laces should be well loosened, then the busks fastened, then the suspenders attached; and then the abdomen pressed upwards before the laces are tightened, and support is afforded to the figure.

I am, Sir, yours faithfully,

(Mrs.) LÆTITIA H. ANDREW-BIRD, L.R.C.P. Irel.

Stoke Newington, Nov. 16th, 1909.

THE TREATMENT OF WHOOPING-COUGH IN GENERAL HOSPITALS.

To the Editor of THE LANCET.

SIR,—Mothers and school teachers do not appreciate the seriousness of whooping-cough, although it is a sad fact well known to medical officers of health. In my own area whilst the death-rate in 1907 from scarlet fever was only 0·15 per 1000 inhabitants that from whooping-cough was as much as 0·65 per 1000.

The following incident would appear to show that the seriousness and highly infective nature of whooping-cough are not appreciated also by the management of general hospitals. A mother recently informed my woman inspector that she was taking her little child to a large children's hospital in London to receive treatment weekly for whooping-cough. I was disinclined to believe this astounding statement, but direct inquiry proved that it was correct. Indeed, I was thus officially informed: "The hospital has a special department for this disease, which (department) is open twice a week." This is naturally with the approval of the medical committee, and I believe most of the children's hospitals have similar departments.

For my part I think this abominable practice should at once be stopped, as the number of children thereby infected must be considerable. Even this one case which has come to my knowledge may have done much harm in the weekly visits to hospital by infecting other children attending at the same time, and by infecting trains and trams and those using these public conveyances.

I am, Sir, yours faithfully,

SIDNEY C. LAWRENCE, Medical Officer of Health.

Town Hall, Edmonton, Nov. 16th, 1909.

THE TREATMENT OF CHRONIC ULCER OF THE LEG.

To the Editor of THE LANCET.

SIR,—Having read Mr. Willmott Evans's paper, "The Treatment of Chronic Ulcer of the Leg," in THE LANCET of Nov. 13th, 1909, I was very surprised to find that he thought more than 90 per cent. of chronic ulcers of the leg were syphilitic in origin. I should much doubt if this is the experience of most, and it is certainly not borne out by the results of the Wassermann reaction. I have the notes of 65 cases of chronic ulcer of the leg, both syphilitic and non-syphilitic. From these only 15 gave a positive Wassermann. Of the 5000 cases described in the *Practitioner* tested with the Wassermann reaction 70 per cent. of the cases of syphilis tested in the tertiary stage gave a positive reaction, many of these having no manifestation at the time; undoubtedly some of the cases were cured.

If over 90 per cent. of these cases of chronic ulcers were syphilitic a positive reaction should have been obtained in at least 40 out of the 65 cases. Too many cases are treated on the chance of their being syphilitic, without any thought being taken of the injurious effects of mercury, which one sees so commonly, especially in patients who have never had syphilis. It is no argument to say a case must be syphilitic because it improves on potassium iodide. In cases of chronic bronchitis there is probably no drug more useful. Further, iodides are not a specific against syphilis; they prevent fibrotic changes, especially in the tertiary lesions, but have absolutely no action on the syphilitic virus. Therefore, if an ulcer of the leg has been diagnosed as syphilitic mercury should be given at once, since it shows the activity of the syphilitic poison, and mercury is the only specific against it. Potassium iodide is surely best given after a course of

mercury, since it has the further action of eliminating the mercury which has accumulated in the system. In out-patient practice more harm than good is done by the injudicious use of fomentations. Patients allow the fomentation to get cold—the venous congestion is increased, the edges of the ulcer become sodden, ultimately necrose, and the ulcer is bigger than it was to start with.

The best method of cleaning an ulcer is to treat the leg as one would preliminary to an operation. Wash and shave all round the ulcer, scrape the raw surface, paint with pure carbolic, then well swab with absolute alcohol and lay on a piece of sterilised gauze upon which some Lassar's paste has been spread. A method of treatment not yet widely practised, but from the cases I have seen with the most extraordinary results, is the following. Scarlet red (Scharlachrot or Fettponceau R.), an aniline dye, is dissolved in chloroform and made into an 8 per cent. ointment with vaseline. A thin layer of the ointment is spread on a piece of calico and applied to the ulcer, but not allowed to remain for more than 24 hours. Boracic ointment is then applied for two days and the scarlet red repeated, and so on. In quite a short time the ulcer granulates up. Great care must be taken to clean the ulcer well before using the scarlet red. This method of treatment either brings about complete healing of the ulcer or makes the surface suitable for skin-grafting.

I am, Sir, yours faithfully,

J. E. R. McDONAGH, F.R.C.S.

Harley-street, W., Nov. 23rd, 1909.

THE INFLUENCE OF DIET ON THE THYROID GLAND.

To the Editor of THE LANCET.

SIR,—The above subject has been brought somewhat prominently before us during recent years, and I should be glad to think that we now possess enough experimental evidence to guide us in the dietetic treatment of gout. Unfortunately we are still a long way from this goal, and although Dr. Chalmers Watson expresses the opinion that a protein diet causes the thyroid gland to enlarge and its microscopical appearances to change, I fear that many, if not most, of his fellow-workers will hesitate to venture so far ahead of established facts. Excessive meat-eating is a subject that has attracted a whole host of investigators, but I believe that none of them, with the exception of Dr. Watson, has been fortunate enough to produce the changes he describes. I myself carried out a series of experiments (an account of which was published in your journal a couple of years ago), but I had to cast my testimony on the side of the majority, for even after nearly two years of an exclusively protein diet the thyroids remained perfectly normal. I also made a comparative study of the glands in carnivorous and graminivorous birds. Here Nature herself performed the experiments and I merely recorded her results. But I found not only that the meat-eaters were not provided with larger and more active thyroids, but that, in some instances, they possessed glands which were strikingly inactive, much more inactive than in many purely vegetable-eaters.

Such facts as these are not, of course, easy to explain away. Yet they and the almost unanimous testimony of past observers must be disposed of before we can bring ourselves to accept that curious belief that our gouty patients will "strain" their thyroids if they eat meat in moderation, but will advantageously stimulate them if they consume it in unnatural excess.

I am, Sir, yours faithfully,

Queen Anne-street, W., Nov. 22nd, 1909. DAVID FORSYTH.

DARWINISM AND MEDICINE.

To the Editor of THE LANCET.

SIR,—I think the time has arrived when a vigorous protest should be raised against the attitude of many scientists with regard to the abeyance of natural selection in civilised communities, and we must welcome Dr. Harry Campbell's timely letter on the subject. The idea that natural selection is in abeyance seems to be so congenial that it has gradually become more or less fully accepted without any real evidence whatever. To illustrate the position we may refer to the supposed degeneracy of the teeth. It has been observed that the teeth have become a positive menace in civilised communities, and the congenial explanation of this has been that the skill of the modern dentist and the food of the civilised are of such a nature that those who have dental caries resulting from an hereditary predisposition to the disease are able to survive nearly or quite as well as those with sound teeth. This, it is contended, is why we find increasing numbers of decayed teeth among the civilised, whereas among the uncivilised the loss of even a few teeth would seriously handicap their possessors because these defects are not rectified, and the foods which perforce they must live upon demand a thoroughly efficient masticatory apparatus. When, however, we look into this argument we find it is quite hollow, for among those savages with the best teeth and having food which demands the most vigorous mastication there is practically no elimination because of carious teeth, as carious teeth practically do not exist among them. On the other hand, in civilised communities we find a large proportion of individuals with very bad teeth long before they reach maturity. It is now known that teeth do not decay except when the mouth is in an unhygienic state, and that this is brought about chiefly by the soft and sticky foods which lodge in the crevices of the teeth; and have we not learned in recent years that an unhygienic state of the mouth is the origin of a host of diseases which frequently lead to a fatal termination? This unhygienic state of the mouth often dates from infancy when on account of an erroneous theory a system of pap feeding (bread soaked in milk, milk puddings, &c.) is deliberately forced on children at a time when they are quite able and willing to eat bread or toast and butter, &c., and to drink what milk or water they require afterwards.

There is no precedent in the whole history of the evolution of man or animal for the soaking of bread or any other thing in milk. So throughout childhood the system is often more or less continued, the teeth become carious and the weakly children succumb, the disease which carries them off frequently having had its origin in the carious teeth. Are we, then, to believe that the mouth is not a common entrance portal of disease because the skill of the doctor and dentist prevents natural selection from having its way? Again, we know that many young women have a somewhat dilapidated dental armamentarium either with or without artificial substitutes. We know that this tends to give rise to ill-health—generally chronic. We know that a considerable proportion of them are unable to suckle their young as the result of their impaired health. We know, finally, that among bottle-fed babies the mortality is much greater than among breast-fed babies. This chain of facts leads us to believe that there is greater mortality in children of mothers with bad teeth and unhygienic mouths than there is in the children of mothers with perfect teeth, and consequently there is an indirect elimination of those who are hereditarily predisposed to dental caries. It must, I think, be admitted that there is no evidence whatever that the teeth are degenerating because of the abeyance of natural selection. With regard to the idea that the diminution in the size of the civilised jaw has outrun the diminution in size or number of the teeth, Professor Arthur Thomson takes up a similar, if not identical, position to that which I myself took up in my book on "The Irregularities of the Teeth," and apparently believes that the crowding of the teeth is a "modificational" characteristic, for he indicates his belief in relation to this subject by saying that "far too little attention has been paid to what I call 'modificational' characteristics, which look as if they were inherited, but are not, being re-impressed or re-acquired in each successive generation."

I am, Sir, yours faithfully,

Wimpole-street, W., Nov. 22nd, 1909. J. SIM WALLACE.

THE TREATMENT OF MORPHINISM.

To the Editor of THE LANCET.

SIR,—In your issue of Oct. 16th Dr. Oscar Jennings of Paris criticises my method of treating morphinism by artificially inducing sleep during the painful withdrawal period. His point seems to be that the cultivation of the will is better accomplished by a painful than by a painless method when the latter is accompanied by hypnotic remedies. But my observations lead me to exactly the opposite conclusion. The long-drawn-out suffering caused by the ordinary gradual reduction method weakens not only the mind and body, but

especially the will. Whatever tends to obliterate suffering conserves the strength of all the faculties of both mind and body, and thus lessens the liability of relapse after the patient leaves the sanatorium.

A few minutes after reading Dr. Jennings's criticism I chanced to meet a nurse who cared for her sister while she was under my treatment for morphinism. I told her of this criticism, and she reminded me of her own experience. Her sister had taken treatment for morphinism in two institutions before coming to me. In both places they used the usual painful reduction method, without much reliance upon drugs, and after each treatment she promptly relapsed. Since taking treatment with me she has not returned to the use of morphine, and long since resumed her usual work, maintaining the best of health. One of the glories of modern medicine is its conquest of pain. It is no mean achievement to keep a patient free from suffering while nature or art is busy restoring him to health. This is the object of my treatment of morphinism.

I am, Sir, yours faithfully,

Dorchester, Mass., U.S.A., Nov. 5th, 1909. C. J. DOUGLAS.

HOSPITALS AND THE LONDON COUNTY COUNCIL: MEDICAL TREATMENT OF SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—There seems to be as great a diversity of interpretation of the arrangements entered into between various hospitals and the London County Council regarding the special medical treatment of children attending the Council schools, as there is difference of opinion in the prudence of such arrangements.

In the hope that the position taken up by the committee of the Central London Throat and Ear Hospital will commend itself to their subscribers, to the charitable public, and to the medical profession, I venture to give the resolution passed at our recent meeting, viz. :—

That the committee of the Central London Throat and Ear Hospital is willing, as hitherto, to receive those children of the London County Council schools who are suitable for hospital treatment so far as the capacity and resources of the hospital will allow.

It will be seen that we neither enter into financial contract nor give preferential treatment, our intention being to receive the children on their merits, not because they are children under the supervision of the L.C.C. but because they are children of the poor who have a claim on our sympathy and our assistance, the only passport needed being illness and the absence of means to pay for the adequate medical treatment of that illness.

I am, Sir, yours faithfully,

RICHARD KERSHAW.

Central London Throat and Ear Hospital,
Grays Inn-road, Nov. 17th, 1909.

THE EYESIGHT OF SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—May I suggest that the medical officers who are examining school children in the elementary schools should inquire what kind of artificial illumination is provided in the school by which the children have to perform their writing and reading lessons during the dark foggy days so prevalent at this season of the year? I understand that in some schools there is quite inadequate illumination, the ordinary old-fashioned gas-jet being used without applying the modern methods of illumination, even by those boroughs which have electricity works of their own. Examination of the children's eyes at this time of the year could conceivably show the effects of eyestrain due to this cause and give misleading results for tabulating purposes.

I am, Sir, yours faithfully,

London, Nov. 17th, 1909. A PARENT.

LITERARY INTELLIGENCE.—Messrs. Baillière, Tindall, and Cox will shortly publish a handbook by Captain E. Blake Knox, R.A.M.C., M.D., D.P.H., entitled "Aids to Microscopic Diagnosis (Bacterial and Parasitic Disease)," which will present a concise account of clinical laboratory technique.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Institute of Sanitary Engineers.

Mr. J. D. Watson, engineer to the Birmingham Drainage Board, delivered his presidential address to the Birmingham and Midland section on Nov. 16th. The subject was "The Disposal of Sewage at a Country House." He directed attention to the need of making owners and occupiers realise the need for improvement and for efficient methods of dealing with sewage. Many beautiful streams were polluted because no attempt at purification of sewage was made. A natural method of purification was the best, and that might be done by land irrigation or by artificial means or bacteria beds according to circumstances. The quality and suitability of land were of great importance, some soils being capable of purifying more than 30,000 gallons of sewage per acre per day, and other soils not a tenth of that amount. Assuming a typical country house inhabited by ten people, with a total volume of sewage of about 300 gallons per day, he recommended the establishment of a bacterial plant on the percolation system.

Parents' National Educational Union.

The annual conference was held in Birmingham from Nov. 15th to 19th. Much interest has been taken in its proceedings. On the first day a large meeting, presided over by Lord Lytton, was held in the great hall of the new University buildings, and an address was given by Sir Oliver Lodge. Among other notable addresses were those by the Bishop of Birmingham on "Shall we send our Sons to the University?"; by Canon J. H. B. Masterman on "The Education of the Imagination"; by Sir Martin Conway on "How to Interest Young People in Art"; and by Dr. Helen Webb on "Environment in Relation to Nervous Stability."

Death of Alderman Alfred Barratt, M.R.C.S. Eng., L.R.C.P. Edin.

I record with regret the death of Alderman Barratt on Nov. 18th at the age of 81 years. Mr. Barratt was trained at Queen's College, Birmingham, and qualified in 1855. For about 30 years he worked a large general practice in a thickly populated artisan district. In 1870 he was elected to the town council and joined the small band of public-spirited men who, under the leadership of Mr. Joseph Chamberlain and Mr. Jesse Collings, strove successfully to reform the constitution of the council and its methods of working, so bringing about a vast improvement in the town. His professional knowledge was of great service to the health committee, drainage board, and estates committee, of which he was a member. He was also a member of the committee which carried out the great improvement scheme when a number of old slums were cleared away to make room for handsome business streets. For 20 years he was a member of the board of guardians, of which he was chairman in 1885. At the time of his death he was a member of the board of overseers. He lived a strenuous life, and was a good example of a public man actuated by the highest motives.

Royal Leamington Spa.

The town council has decided to enter upon a scheme to reorganise the baths and make them better known. A weak saline water is to be supplied in addition to the strong saline water now in use; a medical pamphlet will be drawn up; a sum not exceeding £500 will be spent on advertising; and an annexe to the pump room will be provided.

Nuneaton General Hospital.

At the annual meeting of the supporters of this hospital a motion was proposed to rescind the rule restricting the hospital medical staff to six, and substituting a rule that all the duly qualified medical men in the town after 12 months' residence should be members of the staff, if they desired, on application to the management committee. It was pointed out that working men contended that patients when they go into hospital should have the privilege of being attended by their own medical men. After a long discussion the motion was lost by 60 votes to 48.

Nov. 23rd.

WALES.

(FROM OUR OWN CORRESPONDENT.)

Overcrowding of Bridgend Workhouse.

THE population of the Bridgend and Cowbridge Union increased during the decade ending 1901 by 16,000 persons, and it is probable that a proportionate increase has been going on in the past eight years, so that it is not at all surprising to find that the accommodation provided in the union workhouse has frequently been over-taxed. Alterations to the infirmary have resulted in this portion of the institution being placed in a very satisfactory condition, but according to a report recently presented by Mr. L. M. Shadwell other parts of the workhouse are very unsatisfactory. Some of the female dormitories have been given over to the use of the men, so that the women and children are in very restricted quarters, as many as 35 of them being in a room in which only 18 should be accommodated. Provision for escape in case of fire appears to be very inadequate on both sides of the house and in other ways structural alterations are necessary. It should, in fairness to the board of guardians, be stated that, following the example of similar bodies elsewhere, it has been considered only prudent to await the recommendations of the Poor-law Commission before embarking upon an extensive building scheme, and it now appears to be not unlikely that with an extended scheme of classification and a wider area of administration the necessity for the enlargement of existing Poor-law institutions may be met by utilising unoccupied portions of similar institutions in other parts of the county.

Infantile Mortality in Newport.

The infantile mortality rate—135 per 1000 births—recorded in Newport for 1908 compares very favourably with that of 10 years ago, when it was 179 per 1000. This very considerable reduction is no doubt due in great part to the efforts which have been made by the sanitary committee of the corporation to improve the surroundings of the working-class population of the town. There are, however, possibilities of still further improvement, and in his recently issued annual report the medical officer of health, Dr. J. Howard-Jones, refers to the large number of preventable infantile deaths as an indication of the necessity for some radical changes in the education of girls so that they may be better prepared for their life work as wives and mothers of the nation. He further urges the necessity for the coöperation of the public with the sanitary authority in the endeavour to reduce the large amount of infantile sickness and mortality. With the object of securing this coöperation a scheme has been inaugurated in Newport for the purpose of establishing a school for mothers somewhat on the lines of that which Dr. J. F. J. Sykes has instituted in St. Pancras. The objects of the school are to promote infant and domestic hygiene and the natural feeding of infants, to afford assistance to mothers in necessitous cases where they appear to be in want of the nourishment required for the continuance of breast-feeding, and to advise mothers generally upon the care of their children as regards feeding and clothing. Milk is supplied daily to mothers during the first month after their confinement on condition that they drink it themselves and continue to nurse their infants, and necessitous mothers are supplied with dinners at a nominal charge. The Newport school appears to have been formed upon sound lines and will, no doubt, meet with the success which has attended similar undertakings elsewhere.

Monmouthshire Water-supply.

The scarcity of water in certain parts of the Monmouthshire colliery districts has been frequently commented upon, and the increase in the population of both the eastern and western valleys makes it more and more imperative that an adequate supply should be provided. The very laudable effort which the county council made two years ago to obtain water from the Brecknockshire hills was unfortunately unsuccessful, but it is satisfactory to find that two urban district councils, those of Abertillery and Abercarn, have decided to promote a Bill in the next session of Parliament for the purpose of forming a joint water board. The scheme of the councils includes the impounding of water in Brecknockshire and conveying it to the western valleys. It is anticipated that there will be a sufficient supply not only for the two districts named but for several of those adjoining.

Nov. 23rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Appointments at the Royal Infirmary, Edinburgh.

THE managers of the Edinburgh Royal Infirmary at their meeting on Nov. 15th appointed Mr. Henry Wade, F.R.C.S. Edin., an assistant surgeon to the infirmary, and at the same time appointed Dr. James Miller, formerly of the University of Birmingham, an assistant pathologist in the pathological department of the infirmary. There were several candidates for both posts, but the appointments fell to the men who were generally expected to secure them.

Edinburgh School Board Appointments.

After a good deal of trouble the Edinburgh School Board has decided to appoint two medical officers at a salary of £250 a year each. It originally proposed to appoint a man at £250 and a woman at £200. The women at once took steps to dissuade any of their number applying for the post, and it is thought that two men may be selected. For the kind of work there is no doubt as to the suitability of women, and when the School Board recovers from its annoyance at being checkmated the members will realise that the position the women take up is equal pay for the same kind of work for both sexes, and that this is the fair position.

Improvement of Medical Education in Edinburgh.

For some days past communications and letters have been appearing in the *Scotsman* dealing with defects and proposed improvements in medical education in Edinburgh. These have evidently been largely inspired by the report which has been issued from the Edinburgh Pathological Club on the condition of the school. At an early date the directions in which improvement is most necessary may be dealt with. Meanwhile the strong impression is that it will be exceedingly difficult to induce the professoriate to move from its present position, while those who see the need of change are prone to ask too much and to mix up issues.

Appointment of an Edinburgh Anatomist to a London Chair.

Dr. David Waterston, at present lecturer in anatomy to the University of Edinburgh, has received the appointment of Professor of Anatomy in King's College, London. Dr. Waterston is a son of the Rev. Richard Waterston, and is an M.D. of Edinburgh, receiving a gold medal for his thesis. After the death of Professor Cunningham, Dr. Waterston was acting professor of anatomy at the University, and previously to this he was assistant to both Professor Cunningham and Sir William Turner. He is a Fellow of the Royal Society of Edinburgh and a Vice-President of the Royal Physical Society. Dr. Waterston commands the medical unit of the Officers' Training Corps in the University, and takes an active interest in matters Territorial. He has contributed extensively to literature and has edited a popular Stereoscopical Atlas of Anatomy.

Nov. 23rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Temperance Crusade.

DRINK has confessedly always proved one of the most dangerous enemies of the Hibernian Celt, whose sociability and excitability made him so much more prone to the ready display of its most mischievous effects. One of the good results of the recent temperance movement throughout this country has been in the extension of means for the provision of food for persons attending fairs and markets. At a recent meeting in Athlone it was decided to purchase a coffee van which is to be used on these occasions; the experiment has already been made in other districts with gratifying success. Its use has been made to serve a twofold object. The detestable product known as "fair-day whisky" is struck at directly, while a crying want of those who have to attend in the grey morning hours to the urgent and trying transactions of fairs is efficiently supplied. Very moderate prices are charged for the refreshment thus supplied, while it is pointed out that as the benefit conferred by such facilities will be reaped by the great majority of the public there is no reason why these undertakings should not be made self-supporting. In former

years the herd, cattle drover, and grazier always started for the fair—at which the most important of the items of their annual business was transacted—before dawn, and on a perfectly empty stomach. It was unmanly to do otherwise, or even suggest a change of custom. So absorbing was the enthusiasm for business that no idea of refreshment was entertained till the cattle were delivered and paid for. And then—the reward for the ordeal was furnished by the fresh whisky, specially prepared for the occasion by distillation from treacle or potatoes. It had a "grip" which was appreciated and it went "straight to the head," from which it banished all thought of care and consequences. Alcohol is receiving the fullest attention in Ireland, where so large a proportion of the annual expenditure is thereunto devoted.

The Tuberculosis (Ireland) Act, 1908: Rejection by the Athy Board of Guardians.

The question of the adoption of the Tuberculosis (Ireland) Act, 1908, was brought before the Athy board of guardians at last week's meeting, and Surgeon-Colonel Edgar Flinn, medical inspector to the Local Government Board, attended for the purpose of furnishing the debaters with expert advice. After the adoption of the Act had been duly moved and seconded, Colonel Flinn pointed out to the meeting that the opposition to the adoption of the compulsory notification of phthisis was merely a slightly modified replica of the hostile demonstration elicited by the passing of the Compulsory Notification of Diseases Act nearly half a century ago—a measure which proved itself in practice to be both wise and beneficent. A guardian then pointed out that the adoption of Part I., or the compulsory part, would be of little practical value unless Parts II. and III. were put into operation, which conferred the power to erect sanatoriums. A division was then taken, with the result that—by a majority of 15 votes to 8—the meeting refused the adoption of the Act.

The Ulster Medical Society.

The annual dinner of the Ulster Medical Society was held in the Medical Institute, Belfast, on the evening of Nov. 18th, when Dr. J. J. Austin, the President, occupied the chair. The toasts were as follows: "The King," given by the chairman, and also "The Lord Lieutenant and Prosperity to Ireland," to which Sir W. Whitla replied. Mr. R. J. Johnstone proposed "The Guests," to which Dr. T. H. Moorhead (Cootehill), President of the Ulster Branch of the British Medical Association, Mr. R. M. Jonas (headmaster of the Academical Institution), Mr. R. J. MacMordie, and Mr. H. Garrett replied. Sir John Byers proposed the toast of "The President of the Ulster Medical Society," to which Dr. Austin, who was very warmly received, replied. During the proceedings excellent songs and recitations contributed to the enjoyment of the evening.

The Belfast Medical Students' Association.

The inaugural meeting of the Belfast Medical Students' Association was held in the McMordie Hall, Students' Union, Queen's University of Belfast, on Nov. 19th. An introductory address on Post-Graduate Study having been given by the President, Dr. P. T. Crymble, Dr. G. A. Gibson (Edinburgh) delivered a lecture on "Modern University Ideals." At its conclusion the lecturer was accorded a vote of thanks.

Queen's University of Belfast.

Mr. R. M. Beath has been unanimously elected President of the Students' Representative Council, and will, in consequence, be entitled to a seat on the Senate of the University for the coming year.

Nov. 23rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Extraction of a Revolver Bullet Lying Loose in the Spinal Canal.

AT a meeting of the Academy of Medicine held on Nov. 2nd M. Tuffier described the case of a woman, aged 56 years, who was shot with a pistol in the abdomen and several weeks afterwards was seized with pain in the left thigh. Radiography showed the bullet lodged in the spinal column, but on operating M. Tuffier failed to extract it, notwithstanding the precision with which it had been located, and a second examination with the X rays showed that it was loose in the cerebro spinal fluid and capable of travelling between the first and the last lumbar vertebræ. It was extracted in a second operation, during which the woman was in a kneeling position, and all the nervous troubles then disappeared.

Vaso-Vesiculectomy for Tuberculous Disease.

At a meeting of the Surgical Society held on Nov. 3rd M. Marion reported two cases of vaso-vesiculectomy under the care of M. Baudet. The first patient was a man, 32 years of age, who was admitted to the Hôpital Lariboisière suffering from a swelling of the right side of the scrotum, an abscess opening below and behind, and a fistula. Rectal examination showed that the right vesicula seminalis was enlarged. An operation was performed on May 27th. An inguino-scrotal incision having been made, the epididymis was removed, and the whole anterior wall of the inguinal canal was incised down to the peritoneum which was turned inwards. The vas deferens was then isolated and followed to the vesicula seminalis which was removed. In the second patient, who had been kept in sight since the operation and had been seen 11 years afterwards, both vesiculæ seminales were removed, but on the left side the testicle was healthy. It must, therefore, be admitted that tuberculosis commenced in certain cases by the vesicula seminalis. Such operations on the reproductive organs were difficult in the performance and the results were not very striking. According to the statistics of M. Baudet and M. Kindindjy death by septicæmia occurred in only one case out of 57. Death might occur at a late stage by extension of the pulmonary lesions. The urinary fistulæ generally closed at the end of three months. M. Marion said that operation was obligatory in presence of urinary fistulæ, rectal tenesmus, and cystalgia, but that it was optional when the vesiculæ seminales were enlarged without being painful and did not undergo retrocession after an operation on the epididymis.

Treatment of Empyema.

M. Pailloz has laid before the French Society of Military Medicine the results of 28 pleurotomies which he performed at the hospital of Saint-Miniel on men suffering from purulent pleurisy. Among these patients there were 24 recoveries and 4 deaths. M. Pailloz remarked on the necessity of making an early diagnosis. For this purpose exploratory punctures must be promptly undertaken, not with a Pravaz syringe, which was quite inadequate, but with Potain's trocar. An operation should be performed as soon as puncture revealed the presence of pus in the pleura. The best operation, and the only one which provided sufficiently for drainage, was pleurotomy with resection of a rib. Disinfection of the skin should be carefully attended to in the subsequent dressings, so as to avoid infection of the lips of the wound which might seriously retard cicatrisation. The amount of the patients' food soon required to be increased. M. Pailloz used chloroform as the general anæsthetic in all cases. Treated on the principles above described an empyema would terminate in recovery after about 45 days.

Nov. 23rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Question of Gratuitous Attendance on Medical Practitioners and Their Families.

THE committee of the Prussian Medical Chambers, consisting of the official representatives of the medical profession, has prepared a draft code of ethics, in one paragraph of which it is said that a medical man should attend his professional brethren and their families free of charge. The editor of the *Deutsche Medizinische Wochenschrift* Professor Schwalbe, has commented adversely on the proposal of the committee as being no longer in accordance with the general circumstances of the profession. He explains that in former times, when the number of medical men was comparatively small even in important towns, the practitioners in each district knew one another and had opportunities of meeting in social intercourse. It was under these conditions that the custom of gratuitous attendance on professional brethren grew up and the custom was a good one, but at the present day the number of practitioners is so great that many of those in the larger towns have never been introduced to one another. It must also be remembered that the

number of specialists was formerly very insignificant, and practitioners used to attend cases of every kind: when one of them or a member of his family became ill he called in a medical neighbour, to whom he rendered a similar service when the occasion arose. Nowadays, a medical man wishes his wife to be attended at her confinement by an obstetric specialist and the illnesses of his children to be treated by a specialist for children's diseases. The general practitioner, moreover, expects this attendance to be given free of charge, although he is obviously not in a position to requite the specialist by rendering him professional services in return. It is also assumed that this obligation on the part of the consulting physicians and surgeons includes not only their professional brethren living in the same town but those in any part of Germany and abroad. It is true that the majority of medical men instead of paying fees are in the habit of either giving pictures, ornamental objects, trinkets, or other presents to their medical attendant or else of paying a certain sum to charitable institutions in which he may be interested, but on the whole the consulting physician or surgeon not only does not receive adequate remuneration for his work, but he may even incur expenses out of pocket. A physician carrying on a large practice in Berlin told Professor Schwalbe that he is consulted nearly every day, and sometimes three or four times a day, by medical men or members of their families during his consulting hours, and that he has been asked to see the wife of a medical man in a provincial town, which he did, thereby losing the whole day without being even repaid his travelling expenses. The system, in fact, involves disadvantages not only for the consultant but also for the practitioner who happens to be in need of advice or attendance, because the latter, through unwillingness to accept services which in some degree partake of the nature of charity, will certainly hesitate to consult a specialist even when necessary. Unpleasantness has occasionally arisen through the disinclination of certain practitioners to undertake the treatment of professional colleagues or members of their families. Some years ago a medical man in Berlin complained in the columns of a professional journal that when his mother, who lived in his house, had become very ill at night during his absence several medical men of the neighbourhood made various excuses for not coming to her assistance. Professor Schwalbe is therefore of opinion that it is not advisable to stipulate, by a paragraph in the code of medical ethics, that medical men and their families are to be exempted from paying fees, but thinks that this question should be left to a free agreement between both parties in each individual case.

Pregnancy and Diabetes.

At a recent meeting of the Berlin Medical Society Dr. Neumann read a paper on Pregnancy occurring in Diabetic Women. He said that three conditions had to be considered—namely (1) whether the woman was healthy previously to conception and became diabetic afterwards; (2) whether she was healthy at the time of marriage but became diabetic before conception; and (3) whether she was diabetic at the time of her marriage. The mortality of pregnant diabetic women was very high—about 50 per cent.—the principal causes of death being either coma or tuberculosis. The fœtal mortality was about 51 per cent., while of the children born at full time 50 per cent. died within the first month. It has therefore been recommended that premature labour should be induced in diabetic women. Dr. Neumann, however, has now found in six cases that adherence to a strict antidiabetic diet made this procedure unnecessary, that normal delivery took place, and that the children were strong and healthy without showing signs of diabetes in the first years of life. The fact that he had six cases of pregnant diabetic women under his care was somewhat remarkable as sterility was rather frequent in diabetic women. Notwithstanding his good results he recommended that diabetic women should not marry and that when married they should refrain from conception. In the event of pregnancy occurring a strict antidiabetic diet was necessary from the beginning. Premature labour, he thought, should not be induced merely because a woman suffered from diabetes.

Dermatitis caused by Satin-wood.

At a recent meeting of the Hufeland Society Dr. Siegheim gave an account of an outbreak of dermatitis caused by satin-wood. The patients were 25 cabinet-makers employed in a workshop where this wood was used, and the outbreak resembled those previously chronicled. The dermatitis was very like that caused by plants of the genus primula, being spread over the face and the arms, but not affecting the conjunctiva, the mouth, or the penis. In one case there were œdema and a nodular exanthem of the thighs and feet. Anorexia and headache were present, but there was neither pyrexia nor albuminuria. The exanthem disappeared when the patient left the shop for a few days, but a relapse occurred in one instance. The treatment consisted in the application of oxide of zinc. Dr. Siegheim was of opinion that the dermatitis was caused by an alkaloid contained in the wood. A similar outbreak of dermatitis was lately observed in Breslau, where it was caused by foreign oak-wood. Covering the hands by chirosoter was a good prophylactic. Professor Jones expressed his agreement with the view that the wood contained an alkaloid; on the surface of the wood there were minute crystals which might easily be spread about. Dr. Somerfeld mentioned that the same disease was caused by Japanese lac.[1]

Nov. 22nd.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

"Our Gideon Grays."

Dr. John Brown's "Horae Subsecivae" contains a memorable plea for the "country doctor" as he lived, laboured, and "entered into rest" during last century—a plea which took inspiration and title from the "village practitioner" as typified in Scott's "Surgeon's Daughter," from whom, says Sir Walter, "Scotland reaps more benefit and to whom she is perhaps more ungrateful than to any other class of men, excepting her schoolmasters." Italy, as in the day now passing, has her "Gideon Grays," has "medici condotti," to wit, or communal practitioners, who keep her rural population in health and confidence on a stipend which their British counterpart of "sixty years since" would not have found a living wage. These men, their "rugged conditions" notwithstanding, are, as a rule, so devoted to their profession on its scientific side that, wherever they have the chance, they give up their brief holiday to the post-graduate courses now open to them in nearly all the great clinical centres of Italy. In Milan, for instance, some 50 of them completed on Saturday last their third "corso di perfezionamento," and before separating for their remote spheres of duty met in fraternal symposium at a well-known restaurant of the city. Their conversation turned naturally on the life they led, its conditions and its prospects, and finally resolved itself into a discussion *motivée* by a cordial telegram received from Dr. Brunelli, Member of Parliament for Lugo and President of the "Associazione dei Medici Condotti." "From the university," said one of the interlocutors, "we are told off into secluded mountain districts, often to be the sport of the syndic, the communal clerk, and the priest whose interests are seldom ours and whose caprices we have to 'grin and bear.'" Evidence in this sense was multiplied by other speakers, one of whom summed up the "situation" as follows: "*Orario* (table of professional hours) covering all the day and most part of the night; shortage, often absolute want, of the medicaments and appliances necessary for successful practice; salary 2000 lire (£80) a year." Hard lines these; and after 25 years of work on such terms, during which the doctor makes an annual payment of 130 lire (£5 4*s.* 2*d.*) to the Cassa Pensione, he may expect a retiring allowance of 500 lire (£20) per annum. The symposium came finally to an "order of the day," voted unanimously, in which the Government were petitioned for legislative interference in behalf of the "medici condotti," with a view to the redress of existing grievances and the enactment of conditions commensurate not only with the just claims of the petitioners but with the public interests the said petitioners are called upon to serve.

The Argentine Republic and its International Congress and Exhibition of Hygiene.

In the summer of 1910 the Argentine Republic—well-nigh Italian in its civilisation and citizenship—celebrates the first centenary of its independence, and prominent among the

[1] See THE LANCET, June 12th, 1909, p. 1703.

incidents of the commemoration will be an international congress and an international exhibition of hygiene. The congress and exhibition alike will be inaugurated on May 25th at Buenos Ayres, and the exhibition will remain open till Nov. 25th of the same year. Under 14 different heads it will comprise specimens of every object, appliance, and practical method known to sanitation in its widest sense, and already more than one of the continental powers are taking steps to be represented in the various sections. Exhibits will be accepted up to March 31st and will be exempt from all import dues whatever, except in the case of their finding purchasers at the close of the exhibition. The navigation companies will (it is understood) concede transport of goods as well as of passengers at reduced rates, precise particulars as to which will in due course be ascertained at the Consulates and Vice-Consulates of the Argentine domiciled in Italy. Meanwhile, information as to terms of admission and other details of interest to intending exhibitors can now be had on application at No. 15, Via Monte della Pietà, Milan, the seat of the Commissione Esecutiva del Comitato per le Esposizioni all' Estero.

Nov. 14th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Typhoid Fever.

IN some of the local newspapers reports have appeared of the outbreak of the epidemic of typhoid fever in different quarters of the metropolis. The cause is attributed to bad drinking water. I myself have seen in the course of the last few months quite an unusually large proportion of typhoid fever cases at Haskeuy and Balat, two districts on the Golden Horn. Numerous people in Constantinople firmly believe that all the sources of water-supply here are contaminated and absolutely dangerous to be used for drinking purposes. Even the famous *Sultan souyou* (Sultan's water) got from the street fountains, which has, up to now, enjoyed the reputation of being perfectly pure, has now been condemned by a large section of the population as being also polluted. Although many of the popular fears are groundless, there can be no doubt that many of the water sources of the capital are anything but pure. This is the opinion of the special Commission that was appointed some time ago to examine them. The so-called Derkos water which supplies a large section of the city, and which many use unboiled and unfiltered, is certainly impure.

Malarial Fever.

Another epidemic—namely, that of malarial fever—is raging in the vilayet of Houdavendighiar. It is especially severe in Nicæa, where (so says the *Osmanischer Lloyd*) there is no house without a sufferer from the disease, and where the medical man himself is laid up. Since there is no druggist or chemist in that place people are forced to buy quinine from the *bacal* (grocer). It has been found that this drug is not of the necessary quality, with the result that the disease still continues its ravages. The medical man says that he has already several times asked the municipality of the town to take the necessary measures of prevention, but in vain. He was always answered that for the successful combating of the epidemic the sum of £500 would be required, which was not available. In Nicæa as many as 60 persons have died from malaria in the course of the last few weeks. The opinion is expressed that the cause of the epidemic lies in the swamps of the district. The canal of Ghemlik, which unites the Lake of Nicæa with the Marmora Sea, has not been for a long time past in good working order, and the accumulations in the swamps have consequently not found the necessary exit. A large part of the population of Nicæa have expressed the wish to undertake the work of clearing the canal and the swamps. The inhabitants of Ghemlik, however, energetically object to this undertaking, as they fear that the clearing of the place will result in an inundation. The dilemma is rather a difficult one, and the authorities are undecided what to do.

The Hospital of Gouréba.

Hamada Pasha, the Minister of Evkaf (religious property) has inspected the Gouréba hospital of the metropolis and found it in a most deplorable condition. Complaints of the bad management of this institution have been very loud for a long time past. A special commission has been formed, consisting of the surgeon Djémil Bey, Mustafa Bey, the Director of the Faculty of Medicine, and Dr. Nizameddine Bey, to investigate the matter. This commission has now submitted a report which completely condemns the administration of the hospital. Gouréba is one of the most important national charitable institutions of Constantinople, containing as it does 300 beds. The management seems to have been utterly neglected. Typhoid fever cases were confined in one room in very large numbers. Disinfection was hardly ever undertaken, and when undertaken it was done in a superficial, casual manner. The most primitive hygienic measures were neglected. An idea of the great mortality that prevailed at Gouréba can be formed from the large sum spent for shroud-clothes. It has been proposed that the direction of the hospital should be intrusted to Dr. Nedjmeddin Arif Bey, who has studied in Paris and Berlin, and who lived in exile during the old *régime*.

Nov. 18th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Pellagra Board of Investigation.

THE increasing prevalence of pellagra in the Southern States has led the Government to appoint a board of investigation as to its cause and the preventive measures necessary for its arrest. This board is empowered to visit the localities where the disease is most prevalent, to make such inquiries and investigations as may be found necessary, and to confer and coöperate with local health authorities in instituting the measures found to be essential to the extermination of the disease. The board consists of medical officers of the Public Health Service of large experience in the investigation of pestilential diseases, and experts in laboratory experimental work.

Accidents from Automobiles.

The National Highways Protective Society has published a list of the killed and injured in New York during the month of October by automobiles. The total number killed was 22 and injured 33. Within the traffic lines, where the police are stationed at intervals, there are no accidents, but in the suburbs, where there is no such protection, the accidents chiefly occur. The society states that the average rate of speed in the streets is 20 per cent. higher than it was and is steadily increasing; the trouble is with the drivers. Any man who sends $2 to the Secretary of State and asserts that he has had a certain amount of experience may have a licence to drive; the result is that even ex-convicts, whose photographs are in the Rogues' Gallery, are driving some of the taxicabs. The society has decided to endeavour to secure legislation creating a Highway Commission with power to issue licences to chauffeurs and to regulate the operation of automobiles in cities and villages.

The Rockefeller Commission for the Eradication of the Hook-worm Disease of the Southern States.

The creation of this Commission and its endowment with $1,000,000 is an interesting if not a unique instance of a great work of public beneficence by private wealth. Mr. J. D. Rockefeller, recently organised a Commission of expert medical scientists, of which Professor Welch of Johns Hopkins University is the president, and addressed to it a communication, saying: "For many months my representatives have been inquiring into the nature and prevalence of hook-worm disease and considering plans for mitigating its evils. I have delayed action in the matter only until the facts as to the extent of the disease could be verified and the effectiveness of its cure and prevention demonstrated. If you deem it wise to undertake the Commission I shall be glad to be permitted to work with you to that end, and you may call upon me from time to time for such sums as may be needed during the next five years for carrying on an aggressive campaign, up to a total $1,000,000." In accepting membership of the Commission the members replied as follows: "Your generous offer ..... has our

heartiest approbation and we accept your invitation to administer this trust with a keen appreciation of the opportunity that you give us to do a great public good. The hookworm parasites often so lower the vitality of those who are affected as to retard their physical and mental development, render them more susceptible to other diseases, make labour less efficient, and in the sections where the malady is most prevalent greatly increase the death-rate from consumption, pneumonia, typhoid fever, and malaria. ..... The disease can be easily recognised, readily and effectively treated and by simple and proper sanitary precautions successfully prevented." It may be interesting to notice in this connexion that there has long been a class of inhabitants of the Southern States which has been known as the "poor whites." They have been characterised by their listless habits and extreme poverty and apparent want of interest in business of every kind. In 1902 Dr. Charles W. Stiles, chief of the division of zoology in the hygienic laboratory, announced that the "poor whites" were not wilful degenerates but helpless invalids, and that the cause of their condition was the uncinaria or "hookworm," an intestinal parasite probably brought from Africa by slaves many generations ago. Dr. Stiles's investigations showed that this disease was extremely common among the poorer and unhygienic classes, and he was led to estimate the number of victims of this parasite at 2,000,000 at least, and probably a far greater number of sufferers actually exist. The discovery of this disease and its cause excited no other public comment than that it was a remarkable explanation of the peculiar habits of laziness of a class of people in which no one was especially interested. A Southern newspaper says: "The ridicule which Dr. Stiles's discoveries received at the outset now seems itself ridiculous. The idea of a germ of laziness could not at first be assimilated by the public mind. The hookworm was soon a subject of popular jest, and its finder became the butt of many dull jokes. But public disbelief and contempt only spurred Dr. Stiles to repeat his experiments and to stand on his discoveries. ..... When William H. Welch and Simon Flexner, America's greatest pathologists, lend their support to a campaign against hookworm popular support must follow. Their approval is the seal of scientific authority."

Vital Statistics in the United States in 1908.

The chief statistician of the Bureau of Vital Statistics, Dr. Cressy L. Wilbur, states that the civilised world has reached an era of low mortality. The death-rate in the registration area in 1908 was 15·3 per 1000 population. This rate is the lowest that ever occurred in the United States. In the rural portion of the registration States the death-rate is even lower, being only 14 per 1000, while that of the urban population was 16·5 per 1000, the latter including all cities having a population of over 8000 in 1900. The year 1908 must be considered as one of extremely low mortality throughout the United States, but while it was marked by a general absence of severe epidemics there was unusual mortality from other causes.

Importance of Government Control of the Sale of Vaccine Virus.

The sale of vaccine virus by private pharmaceutical firms requires a Federal licence. Recently the Public Health Service discovered that a firm which makes vaccine virus one of its products had prepared a large amount of virus which was demonstrated to be contaminated. On reporting this fact to the Government office, the license of the firm was suspended until it had withdrawn all of the contaminated virus from the market. The company then withdrew the condemned product from the market and destroyed it, the value of the amount destroyed being estimated at more than $14,000. The firm then presented a bill to the Government for the amount of loss, which was refused.

Concentration of Offices of Physicians.

For several years the profession of New York has had a central building devoted exclusively to the offices of medical men and called "The Sydenham." The movement was at first received with marked disfavour, but has now become decidedly popular. In Philadelphia the profession is about to erect a building for this purpose at a cost of $500,000 and with facilities for 200 offices.

Nov. 6th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Plague.

THE plague returns for the week ending Oct. 2nd showed 3460 deaths, compared with 2595 in the week preceding. Bombay Presidency reports 911, Madras 141, Bengal 31, the United Provinces 236, the Punjab 193, Burma 30, Central Provinces 1063, Mysore State 248, Central India 305, and Rajputana 274. For the week ending Oct. 16th the returns show 4175 deaths, compared with 4123 in the week preceding. Bombay Presidency reports 924, Madras 74, Bengal 61, the United Provinces 367, the Punjab 321, Burma 25, the Central Provinces 1304, Mysore State 216, Central India 430, and Rajputana 421. Stringent sanitary measures and inoculation against plague are reported in progress in Mysore city in view of the large gathering of people expected there for the Dusserah festivities this month, which include the holding of the annual agricultural and industrial exhibition, and also in view of the Viceroy's visit to the city towards the end of next month. The health of Mysore is not satisfactory as plague is epidemic, and about 10,000 persons in the vicinity of the palaces have been inoculated. In Bangalore the plague inoculations commenced just two years ago, and as a result of house-to-house inoculation the aggregate to-day reaches 70,000 inoculated and re-inoculated out of a population of 90,000. The resulting immunity has been very marked, in that only about 1 person per 1000 has been attacked by plague.

Vaccination in Bengal.

A series of interesting experiments have been carried out during the past year in various districts of Bengal Presidency, chiefly with glycerinated lymph manufactured in the Central Animal Vaccination Depôt, Calcutta. The results achieved appear so satisfactory that the civil surgeons of Howrah, Gya, and Midnapore have recommended the substitution of this lymph for the lanoline vaccination paste at present being used. The chief drawback to its use, however, appears to be that it is liable to deteriorate through heat and does not retain its efficiency so long as does the lanoline paste. It also requires careful handling by the vaccinators. The Sanitary Commissioner intends to give this lymph a further trial exclusively in two or three selected districts, and if successful the question of its general introduction will be considered. A satisfactory feature during the year has been the appointment of a special inspector of vaccination at Orissa. It has given considerable impetus to vaccination in the districts of Puri and Cuttack. This specially trained officer by tact and energy succeeded in overcoming the opposition to vaccination generally shown by villagers, and induced the natives of tracts affected with small-pox and other districts where vaccination had always been resisted to come up for vaccination. By these means an epidemic was cut short at Puri and the mortality greatly reduced. Another result attributed to the same agency was the marked increase in the number of infants vaccinated in Cuttack and Puri districts, especially in the latter. The appointment of special inspectors with local knowledge and status seems to be fully justified, and no doubt the Government of India will in time make these appointments more general.

Instruction in Bacteriology for I.M.S. Officers.

In and after January, 1910, a course of training in clinical bacteriology and laboratory technique is to be made available for officers belonging to the Indian Medical Service at the Central Research Institute, Kasauli. Officers detailed for the course will be permitted to be absent from their stations for four weeks in addition to the actual time occupied by the journey to and from Kasauli, and one day for preparation for each journey. The classes of instruction will assemble in the months of January, March, May, July, September, and November each year. It is to be hoped that the Government of India will see its way to extend the same privileges to the other branches of the medical services in India.

Compulsory Quinine.

The Punjab Government has just issued a circular letter to all heads of departments and deputy-commissioners in the Punjab recommending anti-malarial measures and expressing

the hope that during the next three months every endeavour will be made to carry them out. The plague staff has been asked to coöperate. The Punjab Government has also authorised the free distribution of quinine amongst all Government servants drawing less pay than Rs. 10 (13*s.* 4*d.*) per mensem, and has recommended the general and regular use of quinine amongst all other classes and ranks of officials. Those who do not take quinine regularly will not be entitled to the usual grant of leave given in case of sickness, if the illness is due to malarial fever, but will be subject to the ordinary leave rules.

Combined Leave Regulations for R.A.M.C.

The Government of India has decided that officers of the Royal Army Medical Corps holding executive staff appointments of limited tenure in India are eligible for combined leave under the provisions of A.R.I., Vol. II., para. 226, which allows of leave for a period of eight months or less on full pay for the first three months, and on ordinary pay for the concluding portion. The chief executive staff appointments open for R.A.M.C. officers in India are sanitary officers of divisions and divisional medical mobilisation. No record of executive staff service is made, however, for medical officers in the quarterly army list, although the same service is freely recorded for the most junior of the combatant branches.

Oct. 19th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The late Mr. Philip Muskett.

THE death was announced in Sydney on August 25th of Mr. Philip E. Muskett, a well known practitioner in that city. Mr. Muskett was born in 1857 and qualified as L.R.C.P., L.R.C.S. Edin. in 1880. He was subsequently resident medical officer at the Melbourne Hospital and at the Sydney Hospital. He held various official posts in Sydney and was at one time honorary surgeon to the Sydney Hospital. The deceased gentleman was much liked in a large circle of friends, and was well known as the author of several quasi-popular works on dietetics and kindred medical topics.

Remarkable Poisoning Case.

A curious instance of poisoning due to carelessness occurred recently in Sydney. A visitor at the Hotel Arcadia drank a tumbler of water in his bedroom and expired very shortly afterwards. He remarked to his wife that the water tasted strangely. When the account of the occurrence appeared in the daily press a foreigner, who had occupied the same bedroom previously, communicated with the police and informed them that he had been experimenting with a solution for silvering glass and had left the tumbler in which he had used some chemicals. The cause of death was cyanide poisoning. At the inquest the former occupant of the bedroom was committed for trial on a charge of manslaughter.

Rat Destruction.

Dr. B. B. Ham is determined that rat destruction will be as vigorous an objective of his rule in Victoria as it was in Queensland. He attributes the comparative freedom from plague of Victoria and South Australia to the species of rat and variety of rat-flea found in them. In Australia there are practically only two distinct species of rat—the common grey-brown or Norway rat, living in sewers, and the English rat that infests houses. Dr. Ham thought until recently that the house-rat did not exist in Melbourne but finds that he was mistaken, and urges that measures should be taken for its destruction. There is no legislation at present by which householders can be compelled to keep houses free from rats, and Dr. Ham may find it advisable to recommend the introduction of compulsory legislation in Victoria.

Hospitals and Police.

The Melbourne city coroner recently animadverted strongly on the action of the committee of the Women's Hospital in declining to give information to the police concerning patients in the hospital. The matter arose in connexion with an inquest on the body of an infant supposed to have been murdered. A detective in charge of the case had reason to suppose the mother had been treated at the hospital, but the committee declined to afford any information. Subsequently the resident medical officer and the secretary were subpœnaed and questioned by the coroner. In a leading article commenting on the coroner's remarks the Melbourne *Argus* upheld the action of the committee and considered the coroner's position mistaken.

Medical School Inspectors.

The Victorian Department of Education has appointed three medical inspectors, who will inaugurate a system of medical inspection of school children in the State. The salaries offered were £550, £500, and £450 per annum, and 35 applications were received. The final choice resulted in the appointment of Dr. Harvey Sutton, Dr. Mary Booth, and Dr. Jean Greig. Dr. Sutton has recently returned from Oxford, where he studied as a Rhodes scholar; and Dr. Mary Booth has had three years' experience as medical inspector in New South Wales.

Tuberculosis Conference.

A conference of local boards of health in South Australia has been held in Adelaide to develop means for better dealing with tuberculosis. The delegates were conducted over the Kalyra and Nunyara Sanatoriums and shown the consumptives' wing at the Adelaide Hospital. Several proposals were left over for a further session, information being meanwhile supplied.

Nurses for the Bush.

At the annual meeting of the Women's National Council held recently in Brisbane the Countess of Dudley advocated an extension of the district nursing principle to outlying parts of the back country. The project has been warmly supported by Madame Melba who is at present in Australia. In order to form the nucleus of a fund to carry out a scheme of the kind, Madame Melba is arranging a special concert, the proceeds of which will be handed over to Lady Dudley.

Oct. 14th.

Obituary.

RICHARD THEODORE STACK, M.D. DUB., F.R.C.S. IREL., L.D.S.R.C.S. ENG., D.M.D. HARV.

ON Nov. 11th Dr. Richard Theodore Stack died at his residence at Stillorgan, Ireland. Dr. Stack was born in 1849 and was educated at the Royal School, Raphoe, and the University of Dublin, where he graduated with honours, and in his senior Freshman year obtained a classical scholarship. In the medical school his career was one of great distinction. He obtained a medical scholarship, nearly every prize open to him, the first place in his degree list, and (an unprecedented honour) a double travelling prize, which enabled him to visit the Vienna Medical School, where he resided and studied for six months. On his return to Dublin Dr. Stack was appointed resident surgeon of the Richmond Hospital and also a demonstrator of anatomy in the University Medical School, and he seemed likely to climb to the top of his profession in Dublin. Unfortunately his hearing soon became defective, and recognising that the practice of either medicine or surgery could no longer be carried on by him with satisfaction either to himself or his patients, he determined with characteristic energy and pluck to go to America and join the Dental School in the Harvard University. Having obtained his degree, he returned to Dublin and commenced practice as a dentist with great success. Dentistry at that time—32 years ago—was at a very low ebb in the capital city; by Dr. Stack's tireless energy and enthusiasm new light and leading were infused into a neglected branch of the medical profession. It was partly due to his example that the whole position of dentistry was raised to the high position it now occupies, not only in Ireland, but in the sister countries. Dr. Stack was the founder of the first dental hospital and school in Ireland. He made himself responsible for the funds which built it, and organised one of the first and most successful of the bazaars which have done much from time to time to help the various hospital charities of Dublin. He was also dental surgeon to the Adelaide Hospital, Dublin. He had reached a high position in his adopted profession when he was suddenly struck down 11 years ago by a hemiplegia which deprived him of the use of his right arm, and greatly

interfered with his powers of speech. He, of course, had to retire from practice, but he never ceased to take an interest in the work and the Dental Hospital, in which his portrait, the gift of his colleagues on the staff, now hangs. He was a president of the British Dental Association and a member of the Royal Academy of Medicine of Ireland. Dr. Stack attracted towards himself many friends, and in the district of Mullaghmore his constant acts of charity and deep interest in the people won him their real devotion. For the past few months Dr. Stack's health was visibly failing. He knew the end was drawing rapidly near, and yet he faced death as he had all the difficulties of his life, with the fortitude of a true philosopher. His death was peaceful, and his body rests in his family burying-ground at Cappagh. He is survived by a widow who has received the deep sympathy of his friends, both in Tyrone and Dublin.

THE FEEDING OF LONDON SCHOOL CHILDREN.—A supplemental estimate of £25,000 was submitted to the Education Committee of the London County Council on Nov. 24th to meet the cost of providing meals for necessitous children. It was stated that many more children were being fed this winter than last, the numbers for the week ended Nov. 12th being 41,934 as compared with 22,430 in the corresponding period of last year. Some discussion arose on this report, one or two members expressing the fear that the meals were being given too freely. The Rev. Stewart Headlam, as a member of the Care Committee denied this, declaring that inquiries were unduly stringent. Miss Adler said the experience of the officials was that very few applications for assistance were made which were not warranted. Mr. Jay, an ex-chairman of the Care Committee, on the other hand, said that a large number of cases were put on the list by teachers which could not be regarded as urgent. He also called attention to the extent to which overlapping occurred owing to meals being given to children whose parents already received out-relief. The Care Committee was pressing the Local Government Board to advise on this point. Mr. Ernest Gray said it was the intention of the committee to proceed rigorously against all persons guilty of fraud in obtaining meals. The estimate was approved.

ROYAL DENTAL HOSPITAL OF LONDON.—The annual dinner of the staff and past and present students of the above institution was held in the Whitehall Rooms of the Hotel Métropole on Nov. 20th, when Mr. C. F. Rilot occupied the chair. After the usual loyal toasts had been received, the chairman proposed that of "The Past and Present Students of the Royal Dental Hospital and the Dental School." He gave an interesting retrospect of the history of the hospital and school, and referred feelingly to the old teachers who had passed away. He appealed to the past students to keep in touch with the institution, and in this connexion made some useful suggestions in regard to the value of the hospital Gazette. He thought it would increase the interest of this journal if past as well as present students would record in it now and again some features of novelty met with in their practice, and he should like to see the journal receive more support than it had hitherto received from those who had passed through the hospital and school. He could speak of the progress the school was making, and the teaching, organisation, and facilities were, he thought, second to none. The toast was responded to by a past student, Mr. E. A. Mansell, and a present student, Mr. G. Jackson, both of whom made excellent speeches, in which they expressed their appreciation of the excellent work done by the hospital and school. The recently appointed dean, Mr. W. H. Dolamore, replying for the staff, paid an eloquent tribute to previous deans, and said that much of the success of the school was due to their zeal and energy. The school was flourishing, there were 160 students on the books, and the spirit with which the work was entered into was admirable. Dr. R. J. Probyn-Williams proposed the toast of "The Visitors," to which Mr. H. R. F. Brooks, the President of the British Dental Association, replied. The last toast on the list, that of "The Chairman," was proposed by Mr. J. F. Colyer. The excellent singing of the "Westminster Singers" added considerably to the enjoyment of a very successful gathering.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, NOV. 23RD.

THE half-yearly session of the General Council of Medical Education and Registration opened to-day at the Council's offices, 299, Oxford-street, London, W. Sir DONALD MACALISTER, the President, was in the chair.

New Members.

Dr. JOHN DIXON MANN (introduced by Dr. R. CATON) took his seat at the Council as the representative of the Victoria University of Manchester.

It was officially intimated that Sir Christopher Nixon, Bart., had been appointed representative of the National University of Ireland for a period of three years from Nov. 11th, 1909.

The President's Address.

The PRESIDENT in delivering his address said: His Majesty the King in Council has been graciously pleased to approve and give effect to the representations which on May 25th you directed to be made, and which I duly communicated to the Privy Council. An Order has accordingly been issued which confers on the registered practitioners resident in England and Wales the power, at the next general election, of returning an additional member to this Council. Thus in about two years' time the directly elected representatives of the practitioners of England and Wales will number four, instead of three as at present. Our respectful acknowledgments are due to the Privy Council for their good offices in commending our request to His Majesty's favourable consideration. You will have learned with much pleasure that His Majesty has bestowed the dignity of a baronetcy on our treasurer, Sir Henry Morris, and on our late treasurer, Sir Dyce Duckworth. The Council will be at one with me in wishing that both our colleagues may long wear these merited honours in health and happiness. The tragic death of Mr. Sydney G. Lushington in the prime of his active powers has deprived the Council of an adviser by whose legal skill and practical wisdom it has constantly profited during the past five years. When in 1904 the Council lost the services of Mr. Muir Mackenzie, owing to his official promotion, it felt deeply the withdrawal of an adviser on whose guidance it had confidently relied for some 25 years. On his recommendation we invited Mr. Lushington to act on occasion as assessor. We recognise to-day that in thus advising us Mr. Muir Mackenzie rendered us a service which deserves our warmest gratitude. Session by session Mr. Lushington gained an ever surer place in our esteem, not only for his professional but for his personal qualities. He knew how to combine special knowledge with sound common sense, firmness with courtesy, and respect for precedent with open-mindedness in presence of new conditions. Many who knew intimately his character and attainments thought him destined for high office in his profession. To these friends, and to the members of this Council which he served so well, his untimely death brings more than regret for the interruption of a distinguished career; it brings also a sense of sorrow as for a personal loss. Acting on what I believed would be your desire, I arranged that the Council should be represented at Mr. Lushington's funeral; and I sent a message of sympathy and regret to his relatives, which has been gratefully acknowledged by them. As it was necessary to instruct counsel to advise us with reference to certain penal cases, and to act as assessor at inquiries to be held during the present session, I consulted Mr. Muir Mackenzie and our solicitor, Mr. Winterbotham, on the subject. By their advice Mr. A. H. Bodkin has been requested to give us his assistance during this week. Mr. Bodkin is familiar with the procedure of the Council, and he holds a public legal appointment under the Attorney-General, similar to that previously held by Mr. Muir Mackenzie and Mr. Lushington. It should perhaps be explained for the benefit of new members that the Council has not hitherto made any permanent appointment to the office of Judicial Assessor. Counsel is simply instructed from time to time in the customary way, as need arises. Before

the end of this meeting I shall take occasion to ascertain your wishes as to future arrangements in this respect. Another distinguished man, who for 10 years was honourably associated with the Council as the direct representative from Ireland, has passed away during the present month. Sir William Thomson, C.B., had won a prominent place among his brethren for his manifold services to the profession and to the State. Those who sat with him in this chamber will long cherish the memory of his impressive bearing and his helpful interest in the Council's work. On your behalf I have sent a letter of condolence to Lady Thomson and her family. We have to welcome, as a new member, Dr. John Dixon Mann, whom the Victoria University of Manchester sends to the Council in the place of Professor Young. He will find that his fame as a medical jurist has preceded him, and that the Council reckons with confidence on his ability to assist it in dealing with the questions, partly medical, partly juridical, which come before it. He will find also that the associations left by Professor Young are of so happy a character that it is already a recommendation to be his successor. We receive back Sir Christopher Nixon in a new guise, but with the old cordiality. In May he sat as the member for the Royal University of Ireland, of which he was Vice-Chancellor. The Royal University expired a few days ago, and with it his membership. But the National University of Ireland and the Queen's University of Belfast have now arisen in its stead. Sir Christopher returns with undiminished lustre as member for the National University, in which he is both professor of medicine and Vice-Chancellor. Under recent Acts of Parliament the Queen's University of Belfast and the University of Bristol have each acquired the right to appoint a Member of the Council, but the Registrar has not yet received intimation that the appointments have actually been made.

The movement for the application to the Provinces of the Dominion of Canada of Part II. of the Medical Act, 1886, continues to make progress. The Province of Prince Edward Island has now petitioned His Majesty in Council that the benefit of medical recognition, on reciprocal terms, may be extended to it. Negotiations on the question are proceeding, and as the Provincial law appears to afford due facilities for the local registration of all practitioners registered in the United Kingdom, a satisfactory agreement should be reached. A recent alteration in the Provincial law of Quebec appears to the Executive Committee to have the effect of limiting, in a manner which was not contemplated during the original negotiations, the recognition in Quebec of qualifications that are registrable in this country. As the question raised concerns in the first instance the Privy Council rather than the Medical Council, the attention of the Lord President has been called to it, and I have reason to believe that inquiries will be made through the proper official channels. We shall no doubt be informed of the result in due course.

The Committee, which were appointed to consider various proposals for legislation on the subject of anæsthetics, were informed officially that no progress was likely to be made with these proposals during the present session of Parliament. I therefore refrained from summoning the Committee to meet during the recess, but a meeting will be held during the present week, and a report on the subject will be prepared for your consideration. Meanwhile I was asked, as your President, to appear before a Departmental Committee appointed by the Home Secretary and give evidence regarding the action taken by this Council to promote the practical study of anæsthetics by candidates for medical qualifications. I did so on Nov. 19th and laid before the Committee the relevant extracts from your minutes. The chairman of the Committee expressed the desire that any further resolutions which the Council may adopt during the present session might be communicated to him.

The objections taken last May by the Council, on legal grounds, to certain provisions in the proposed draft Charter of the British Medical Association, were communicated to the Lord President of the Privy Council for his information. There is reason to believe that our criticisms, and those offered by various other bodies, have been brought by his lordship to the notice of the Association. It is probable that an amended draft, in which account is taken of these criticisms, will in due course be substituted by the Association for the original proposal.

The report of the Education Committee on the distribution of the medical student's time, as between the several parts of the curriculum, will in accordance with your resolution be discussed. Its terms have been long before the Council, and have no doubt been carefully considered by members individually. It is to be hoped that the Council is now ready to discuss and to decide upon the important and yet simple proposals it contains for the improvement of medical education, more especially in regard to the branches of knowledge on which professional competence mainly depends. The Pharmacopœia Committee held a two-days' meeting last month for the consideration of the suggestions for the revision of the Pharmacopœia made by the several medical authorities with respect in particular to the omission or inclusion of specified drugs and preparations. With the assistance of the secretary, Dr. Tirard, the committee were able to arrive at provisional conclusions in a large number of instances. These will form the basis for further inquiry, and at a later stage will come up for definitive settlement. Meanwhile the Committee of Reference in Pharmacy continues its labours for the improvement, from a pharmaceutical point of view, of the several monographs in the present issue of the Pharmacopœia.

The November session is understood to be set apart especially for disciplinary inquiries. Owing perhaps to the more systematic notification by the civil authorities of offences and convictions in which professional men are concerned, we have on this occasion a considerable number of such cases to deal with. Some of these are of a novel character, and will call for your special attention. But all have been patiently studied by the Penal Cases Committee, with the help of our legal adviser, and in the light of the documentary evidence submitted. In every instance the committee has satisfied itself that there is a case which *primâ facie* calls for an answer, and it has accordingly authorised the institution of an inquiry by the Council before which alone the case and the answer can be fully stated and supported by oral or other testimony. The question whether it is practicable in medical cases, as it is in dental cases, to delegate such inquiries, so far as the facts are concerned, to any body of members short of the full Council, has been occupying the attention of the Executive Committee. But in view of certain difficulties, as yet unsurmounted, the committee are not at present prepared to offer definite proposals for your consideration. In so important a matter it is necessary that the statutory responsibilities of the Council should first be fully ascertained and discharged. Even serious considerations of convenience and economy cannot be allowed to outweigh considerations of legal obligation, should these prove to be in conflict. Personally I express the hope that the Executive Committee may discover some way by which they may be reconciled.

The Indian Medical Service.

A return was received by the Council showing the results of the competition held in July, 1909, for commissions in the Indian Medical Service.

The Medical Curriculum.

Dr. J. Y. MACKAY moved the adoption of the recommendations contained in the report of the Education Committee on the distribution of the medical student's time as between the several parts of the curriculum. The recommendations of the report which was presented last session were as follows:—

> For the purposes of this recommendation the subjects of the curriculum are arranged in two groups, the earlier group comprising the preliminary sciences and anatomy and physiology, the later group embracing all the remaining subjects, exclusive of pharmacy.
>
> The regulations of the bodies should be so framed as to secure (1) for the study of the subjects of the later group the reservation of a period equivalent in value to 2½ academic years (27 months) of undivided study, half time-value being allowed for periods of work in which studies in the earlier and later groups overlap; and (2) the reservation of a period of two academic years (21 months), in which the studies of the later group shall have the undivided attention of the student.

They had, he said, two definite proposals before them for the extension of the curriculum. One was the proposal that the curriculum should be extended to six years, and the other that the curriculum should be extended by means of a "block," or more than one "block," introduced at certain stated places, and the student prevented from passing a block until all his earlier subjects had been completed. Regarding the proposal that the curriculum should be lengthened to six years, he said this could only be carried out if there was

a consensus of opinion on the part of experts in medical education that the extension was desirable. He thought that the general position was that the time was not ripe for the extension of the curriculum to six years. The committee had had brought to their notice no request from any of the great licensing and teaching bodies that the curriculum should be extended. He referred to the reports which the Council had received on the subject of the examinations conducted by the various bodies. In the Victoria University of Manchester 72 per cent. of the students completed in 5½ years. At Glasgow University, the examinations of which had been favourably reported upon, 56 per cent. of the students passed in 5½ years. It would be a very serious hardship if the Council were to delay men passing examinations when they were apparently well qualified to do so, and to impose upon them by any artificial rule a demand for a six years' curriculum. Many of the men passing so quickly were the best of their time. He would like to say for himself that, in his view, the best possible thing the licensing bodies could do was to say that their students after passing their examinations should spend six months of study in a properly staffed hospital. The average age, taking the whole country, at which students commenced their curriculum was 19¼ years. The average length of the course was 7 years, and the average age of qualification was 26¼ years. 34 per cent. of the men qualified in 5½ years, and the remaining 66 took six years or more. The Council might well consider what would happen if they were to have a compulsory extension of the curriculum to six years. There were three possibilities to consider. If the standard of instruction and examination were raised entirely from a five years' level to a six years' level the change would affect all students. The men who passed in five years now would require six years, and the men who required six years now would need seven, and so on. There was a second possibility. The standard might not be raised. All that would happen then would be that some 34 per cent. of the men would be delayed in their curriculum. If they did somewhat increase the standard no doubt a part of the increase would go to the earlier subjects and not to the final subjects in which the Council was most interested. The Education Committee, therefore, did not propose at present that the curriculum should be lengthened. No doubt new subjects were constantly added to the medical course. The Council had recently decided that the teaching of anæsthetics should be carried on in a more thorough way than it had been in the past. The committee had also discussed the "block" system. There was no doubt that there had been undue encroachment on the final examination. The Education Committee regarded this state of matters as not being what it ought to be. The committee believed that the Council should lay down a fixed minimum period for final study. They had selected this minimum period as one of 27 months. They wanted to lay down the general proposition that half the course should be given to the final subjects. He did not think the Council could go the length of saying that overlapping should be abolished altogether, but he thought it could go the length of saying that overlapping must not go too far. The Education Committee had adopted as a principle that overlapping study should not be carried beyond the third year. It would, no doubt, be much simpler to say that the course should be divided into two parts, but it became necessary in view of actual circumstances to recognise an arrangement of overlapping. The proposal of the committee was not a drastic one, but it was very important. It would have three effects. It would ensure that the final examination would get its fair share of the curriculum. Further, the Council by taking this step would be claiming its position that it concerned itself with teaching as well as examination. Then if it passed these recommendations there would be a minimum for the final examination, and that minimum could be extended from time to time as the Council thought fit. There was a proposal laid before the Education Committee that there should be a "block" at two stages, and that preliminary sciences should be completed before physiology and anatomy were entered upon. The committee, however, thought it inadvisable to propose that a "block" should take place at that part of the course. They thought the "block" should be established between physiology and anatomy on the one hand and the final examination on the other, and if that were done, enough would have been accomplished for the present.

Sir CHRISTOPHER NIXON seconded.

Sir HUGH BEEVOR asked what percentage of the students who were examined would be affected by these regulations.

Dr. MACKAY said it would not be a very large percentage—probably 4 or 5 per cent.

Dr. NORMAN MOORE said they were all agreed that the whole object of medical education was to obtain a knowledge of medicine, surgery, and midwifery. How could that object best be obtained? The final branches of instruction could not be fully beneficial to the student unless he spent a sufficiently long time upon them. The reason for recommending a long period for the final studies was that their acquisition must be by a very slow and gradual method. If the Council accepted the report, it did no more than say that a long period ought to be given to final studies, and that period ought not to be invaded by any other subject whatever. He hoped that the Council would strongly support the view that the final studies would be allowed a definite uninvaded period in the regulations by the qualifying bodies.

Sir CHARLES BALL pointed out that there were some circumstances regarding the Dublin students which did not apply in the same way to the English and Scotch students. There had been a custom for many years in Dublin for a very large number of students, including the very best students, to take a period of residence at a hospital as a pupil for four or six months. That was far better experience for them than could be obtained by attendance three or four hours a day. In the Dublin University they had for a year or two adopted the "block" system, and so far as their experience went it was very satisfactory. The "block" put on at Dublin was that a man must pass the examination which in normal circumstances should be passed at the end of the second year before he commenced his course at the beginning of the fourth. Hospital practice was commenced in the second year, and the body which he represented would hesitate to support any arrangement which would interfere with students becoming resident pupils.

Sir THOMAS MYLES expressed concurrence with the recommendations of the committee, but urged that they should be framed with a certain amount of elasticity.

Dr. R. SAUNDBY said that his opposition to these proposals went further than had been expressed by any previous speaker. He did not like hard-and-fast rules—water-tight compartments from which there was no escape. He very much regretted that after all these years which the Education Committee had spent considering this matter, they only brought up such an insignificant and unimportant recommendation. Those of them who were final teachers could not be satisfied with medical education as it was now. There were a good many men who were allowed to go into the profession whose preliminary education was defective. Men who came for instruction in medicine and surgery often showed that they had no adequate knowledge of chemistry, anatomy, or physiology. They seemed to think that those subjects, having been passed, should not be longer kept up. That showed the defect of the present method of medical education, and the more they adopted water-tight compartments the more encouragement would they give to it. They wanted to get men to the final examination with a knowledge of physiology and anatomy. He further protested against the growing practice of allowing students to take their examinations piecemeal.

Sir THOMAS FRASER said that the body which he represented expressed its warm concurrence with these recommendations. They agreed that there should be a certain amount of latitude. In Edinburgh University students came from the colonies and from India, and a large number of these men from India had already attended three or four years in reputable institutions. They came to Edinburgh to get their degrees and had to pass all the examinations there. It would be very undesirable to ask them to comply with the requirements of the "block" system. Cases of that description ought to be attended to. At the same time those whom he represented thoroughly concurred in the recommendation as to the "block." He thought that the Council would make a great mistake if it placed too much emphasis on hospital and clinical work. It was most valuable to train the intellect of the men so that they would afterwards be able to obtain a very complete knowledge for the practice of midwifery, medicine, and surgery. He thought the student

would be all the better in his after career if not too much emphasis was laid on hospital work.

Sir HENRY MORRIS pointed out that only 13·8 per cent. of medical students passed through their curriculum in five years. The majority of them took 6 years and 11 months.

Sir CHRISTOPHER NIXON thought that at the present stage the recommendations of the committee were the most practical that could be passed by the Council, although personally he would have been in favour of something more. He dissented from what had been said by Sir Thomas Fraser.

Dr. NORMAN WALKER moved the adjournment of the debate, and this was agreed to.

The Council then adjourned.

WEDNESDAY, NOV. 24TH.

The Council resumed and most of the sitting was occupied in the consideration of penal cases.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The annual meeting of the Fellows and Members was held on Nov. 18th at the College, Mr. Butlin presiding. A report of the proceedings will be published in THE LANCET. At the First Professional Examination for the Licence in Dental Surgery the following gentlemen were approved in the subjects indicated below:—

Mechanical Dentistry and Dental Metallurgy.—Ernest Walter Bacon, Guy's Hospital; Harold Barrett, Royal Dental Hospital; Victor Emanuel Dawson Bergh, Guy's Hospital; William Reginald Brandon, Manchester University; Eric James Moore Charter and John Stanley Cocks, Guy's Hospital; Arthur Caspar Stevenson Cottam, Royal Dental Hospital; Graham Cotterell, Birmingham University; James Kenneth Crawford, Royal Dental Hospital; Reginald Gilbert Farrington, Guy's Hospital; William Ewart Hallinan, Royal Dental Hospital; John Otway Hayes and Arnold Augustus Hume, National Dental Hospital; George Gerald Jack, Royal Dental Hospital; Bertram Howard Jones, National Dental Hospital; Ernest Victor Jones and Theodore Hesketh Jones, Royal Dental Hospital; Lionel Scott Langley, Guy's Hospital; Harold Woodhead Mawson, Leeds University; Bertie Mendleson and Roy Harry Barkly Pallett, National Dental Hospital; Arthur John Percy, Guy's Hospital; Haydn Peters, Royal Dental Hospital; Felix Lambert Pradier and Christopher Hodgson Pywell, National Dental Hospital; John Griffith Richards, Russell Rodgers, and Hubert Dennis Shore, Guy's Hospital; Francis Henry Smith, Hugh Dynevor Stephens, and Oscar Henry Titmas, Royal Dental Hospital; Thomas Reginald Trounce, Guy's Hospital; Ernest Victor Breen Turner, Liverpool University; Douglas Wain, Geoffry Heegaard Warner, and Clifford Toulson Watson, Guy's Hospital; Alan Ayscough Wilkinson, Birmingham University; William Jefferson Wilkinson, Pennsylvania University; John Fitzgerald Williamson, Royal Dental Hospital; and Leslie Douglas Wright, Guy's Hospital.

Mechanical Dentistry.—Cecil William Bond, M.R.C.S., L.R.C.P., Royal Dental Hospital; Henry James Burch, Guy's Hospital; Joseph Coplans, Gordon Robert Craig, Victor William Russell Forbes, and Arthur Oliver Gray, Royal Dental Hospital; John Wilfrid Hall, Birmingham University; Robert John Harley-Mason and Lawrence Richards Haydon, Royal Dental Hospital; Harold Holburn, Sheffield and Durham Universities; Arthur Percy Livett Johnson, Guy's Hospital; Frederic Winbolt Lewis, Royal Dental Hospital; Claude Vernon Osborne, University College, Bristol; Cyril James Pridham and Richard Angwin Rail, Royal Dental Hospital; James Stacey Robinson, Birmingham University; George Wesley Royle and Claude Taylor, Royal Dental Hospital; John James Ward, Liverpool University; Stanley Joseph Frederick Webb, Guy's Hospital; and Charles Ferderick Marling West and Sidney White, Royal Dental Hospital.

Dental Metallurgy.—Henry Kiver Allison, D.D.S. Penn., Pennsylvania University; Henry Leonard Bailey, Guy's Hospital; Fritz Ernest Bendix, John William Bowen, and Oscar Bullock, Royal Dental Hospital; Chandulal Manilal Desai and Henry Oswald Dumayne, Guy's Hospital; Francis Arthur Everett and John Stanley Frank Horton, Royal Dental Hospital; William Symons Lakeman, Guy's Hospital; Denis Foster Lewis, Birmingham University; Roy William List, Royal Dental Hospital; Wilfrid Stephen Ollis, Guy's Hospital; Thomas Spencer Osmer, Royal Dental Hospital; Henry Clifford Robinson, Leeds University; Arnold Victor Shilton, Birmingham University; and William Vere Taylor Styles and Keith Eric Wood, Royal Dental Hospital.

UNIVERSITY OF LONDON.—At examinations held in October the following candidates were successful:—

THIRD M.B., B.S. EXAMINATION.

Honours.—†Emile Marc A. Duvivier, Guy's Hospital; †Geoffrey Jefferson, Victoria University of Manchester; †Guy Harcourt Peall, Guy's Hospital; *†Harry Platt (University Medal), Victoria University of Manchester; *William Rees Thomas, Charing Cross Hospital; †Ernest Frederick Gordon Tucker, London Hospital; and *Joseph William James Willcox, University of Bristol.

Pass.—Malcolm Edward Ball and Richard Pitt Ballard, Guy's Hospital; Ella Mabel Barker, London (Royal Free Hospital) School of Medicine for Women; Alfred Bernstein, Victoria University of Manchester; Benjamin Biggar, St. Bartholomew's Hospital; Anne Borrow, London (Royal Free Hospital) School of Medicine for Women; Hugh Leonard Burton, King's College Hospital; Herbert D. Clementi-Smith, St. Bartholomew's Hospital; Arthur Davies, Westminster Hospital; Maurice Rowland Dobson and Raymond Charles Viner Edsall, Guy's Hospital; Arthur Oxley English, Middlesex Hospital; Eric Leigh Fyffe, St. Thomas's Hospital; Arthur Atkins Greenwood, Guy's Hospital; David John Harries, University College Hospital; Charles Reginald Hoskyn, St. Bartholomew's Hospital; William Stanley Hughes, St. Mary's Hospital; Maurice L. Corrie Irvine and Walter Burford Johnson, St. Thomas's Hospital; John Edward Lionel Johnston, St. Mary's Hospital; Robert Henry Hatten Jolly, Charing Cross Hospital; Bertram Arthur Lloyd, University of Birmingham; George Gibson Lyttle, Queen's University, Belfast; Elias Leopold W. Mandel, Guy's Hospital; Edgar William Matthews, King's College Hospital; Edwin Bertram Morley, London Hospital; John Sherwood New, St. Bartholomew's and University College Hospitals; Arthur Henry Penistan, London Hospital; William Joseph Petty, St. Thomas's Hospital; Cecil John Rogerson, University College Hospital; Francis Charles Searle, St. Bartholomew's Hospital; Charles Woolley Shepherd, Charing Cross Hospital and University College, Cardiff; Gravenor Robert Strong, Westminster Hospital; John Bailey Tackaberry, Middlesex Hospital; Margaret Grace Thackrah, B.A., London (Royal Free Hospital) School of Medicine for Women; James Richard Henry Turton, St. Bartholomew's Hospital; Benjamin Randall Vickers, University of Leeds; Gladys Mary Joan Watts, London (Royal Free Hospital) School of Medicine for Women; Henry Owen West, King's College Hospital; Richard Tudor Williams, St. Bartholomew's Hospital; Ernest William Witney, St. Thomas's Hospital; Colin Ilderton Wright, London Hospital; and Stanley Wyard, University College Hospital.

* Distinguished in Medicine.
† Distinguished in Surgery.

The following candidates have passed in one of the two groups of subjects:—

Group I.—Jackson Arthur Atkinson, St. Mary's Hospital; Alfred David Eldred Bayliss, University College Hospital; Henry William Catto, Guy's Hospital; Ethel Mary Connan and Nina Gertrude Cotton, London (Royal Free Hospital) School of Medicine for Women; James Philip Elias, Victoria University of Manchester; Edgar Lionel Elliott, Guy's Hospital; William Moses Feldman, London Hospital; Dossibai Rustomji C. Patell, London (Royal Free Hospital) School of Medicine for Women; Wilfrid Langrish Pink, St. Thomas's Hospital; Arthur Haig Pollard, London Hospital; Geoffrey Price, St. Thomas's Hospital; Simon Isaac Rabbinowitz, London Hospital; Ernest Edward Andrew T. Rigg, University College Hospital; Harry Dudley Rollinson, University of Birmingham; and Robert Heywood Wilshaw, Victoria University of Manchester.

Group II.—Mary Howard Atherton, London (Royal Free Hospital) School of Medicine for Women; George Henry Chisnall, London Hospital; Philip Crawford Conran, Middlesex Hospital; Robert Lawson Crabb, University College Hospital; Josiah Rowland B. Dobson, University College, Cardiff, and St. Bartholomew's Hospital; Douglas Green, University of Sheffield; Arthur Rocyn Jones, David Kennedy, and John Stephen Herbert Lewis, University College Hospital; Joseph Pearson Little, London Hospital; Ethel Mary Morgan, London (Royal Free Hospital) School of Medicine for Women; Hubert O'Meara, University College Hospital; Arthur Borland Porteous, St. Mary's Hospital; George Francis Rawdon Smith, University of Liverpool; Tom Stansfield, Guy's Hospital; Norman Tattersall, Victoria University of Manchester; Gottfried Oram Teichmann, Middlesex Hospital; and Walter Weir, St. Thomas's Hospital and Epsom College.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated:—

Surgery.—B. T. Lang (Sections I. and II.), Cambridge and St. Bartholomew's Hospital.

Medicine.—S. Danziger (Sections I. and II.), Manchester; C. J. Thompson (Section I.), Birmingham; and T. A. F. Tyrrell (Sections I. and II.), St. Mary's Hospital.

Forensic Medicine.—S. Danziger, Manchester; C. P. A. de L. Pereira, Birmingham; and T. A. F. Tyrrell, St. Mary's Hospital.

Midwifery.—S. Danziger, Manchester; and W. H. Watson, Guy's Hospital.

The diploma of the Society was granted to the following candidate, entitling him to practise medicine, surgery, and midwifery: T. A. F. Tyrrell.

ROYAL COLLEGE OF SURGEONS IN IRELAND: FELLOWSHIP EXAMINATION.—The following candidates having passed the necessary examination have been admitted Fellows of the College:—

D. Adams, Sheffield; W. V. Coppinger, Captain, I.M.S.; M. G. Dobbyn, Bristol; J. B. Dordi, Bombay; M. W. Falkner, Captain, R.A.M.C.; J. K. Freyer, Orange, New South Wales; C. Greer, Melbourne, Victoria, Australia; H. W. A. Kay, Pretoria, Transvaal; Miss K. F. Lynn, Rathmines; F. McKee, Hillsborough; J. B. Moore, Belfast; C. E. Murphy, Dover; T. North, London; T. T. O'Farrell, Dublin; H. R. C. Rutherford, Ballinasloe; W. S. Sharpe, Major, R.A.M.C.; C. Sullivan, Rathangan, co. Kildare; and W. R. Wilson, Penzance, Cornwall.

The following candidates passed the primary part of the Fellowship examination:—

Arthur Chance, jun., O. J. O'Hanlon, and H. J. Smyly.

TRINITY COLLEGE, DUBLIN.—In Part II. of the Final Medical Examination held recently the following candidates were successful:—

Medicine.—Adams Andrew M'Connell, Brindley H. Moore, Peter H. Lemass, William R. Watson, Louis Trichard, Edwin B. Bate, Robert E. Lee, James D. Murphy, Hugh S. Metcalf, Charles H. Denham, and William H. Hart.

FOREIGN UNIVERSITY INTELLIGENCE.—*Cassel:* The title of Professor has been granted to Dr. Rosenblath, Director of the District Hospital, and to Dr. Mense, who has written many papers on Tropical Hygiene.—*Gratz:* Dr. Otto Loewi, Assistant in the Vienna Pharmacological Institute, has been offered the chair of Pharmacology and Pharmacognosis.—*Halle:* Dr. Heinrich von Hosselin, *Oberarzt* of the Medical Clinic, has been recognised as *privat-docent* of Medicine.—*Hamburg:* Dr. Jollasse, senior medical officer of St. George's Hospital, Dr. Fraenkel, prosector in the Eppendorf General Hospital, and Dr. Simmonds, prosector in St. George's Hospital, have beengranted by the Hamburg Senate the title of Professor.—*Heidelberg:* Dr. R. O. Neumann is taking charge of the Hygienic Institute for the current winter session as no appointment has been made to the chair vacated by the retirement of Dr. Knauff.—*Kharkoff:* Dr. A. Sommer, Prosector to the Würzburg Anatomical Institute, has been appointed Extraordinary Professor of Pathological Anatomy.—*Magdeburg:* Dr. Habs, Director of the Hospital in the Old Town, has been granted the title of Professor.—*Palermo:* Dr. Carmelo Ciaccio has been recognised as *privat-docent* of Pathological Histology and Dr. Alessandro Amato as *privat-docent* of General Pathology.—*Rome:* Dr. Gaetano Fichera has been recognised as *privat-docent* of External Pathology. Dr. Giuseppe Montesano has been recognised as *privat-docent* of Psychiatry and Dr. Cardini as *privat-docent* of the History of Medicine.—*Strasburg:* It is rumoured that the chair of Ophthalmology is likely soon to become vacant.—*Turin:* Dr. C. Vignolo-Lutati of Bologna has been recognised as *privat-docent* of Dermatology.—*Vienna:* Dr. Uhthoff of Breslau has declined the chair of Ophthalmology vacated by the death of Dr. Schnabel; Dr. Wilhelm Mitlachen, *privat-docent* of Pharmacognosis, has been promoted to an Extraordinary Professorship; Dr. Karl Reiter has been recognised as *privat-docent* of Medicine; and Dr. Hans Lauber as *privat-docent* of Ophthalmology.—*Würzburg:* Dr. Adolf Treutlein, who was until about a year ago *privat-docent* of Military, Naval, and Tropical Hygiene, accepted an appointment as Director-General of the Health Department of the Government of Bolivia, but having found his post untenable on account of political and financial troubles has now returned to his former position on the University staff.

THE NATIONAL DENTAL HOSPITAL.—On Friday evening, Nov. 19th, Sir Thomas Barlow, Bart., K.C.V.O., presided at the annual dinner of the past and present students of the National Dental Hospital, which was held at the Trocadero Restaurant, Piccadilly, W. The toast of "The King" having been drunk with musical honours, Sir Thomas Barlow proposed "The National Dental Hospital and College," with which he coupled the name of Mr. Sidney Spokes, the dean. He commenced his speech, which was listened to with marked attention, by referring to the inadequate support which dental hospitals received from the public. Dealing with the inspection of school children he said that no other educational legislation was so important as the enactment in regard to this matter. The medical inspection of school children had in it an enormous potentiality which the medical profession would do well to accentuate and drive home. If this were done the next generation would see their people much more physically efficient than the present one. The arrangements made for the care of the teeth of the children were of the utmost importance, and he appealed to both past and present students of the Dental Hospital to help the educational authorities in every possible way. At the same time the labourer was worthy of his hire, and that should not be forgotten by workmen's clubs and municipal authorities. It was extremely difficult to get those who were uneducated in the subject of the care of the teeth to realise its extreme importance, but if once the matter became well under way then even if the remuneration were but meagre and inadequate at first time would justify the result, and in the end the dentist would be on a better footing. Speaking of dental work generally, he pleaded for a more intimate connexion between the dentist and the medical man. The medical student and the dental student began their work side by side, he said; medicine and surgery were in need of dentistry, and dentistry could not get on without surgery. The collateral working of the three branches was for the benefit of the patient. He also desired to see a wider field in medical research which should not be restricted to the few but should even find a place in the teaching of students. That would be for the good of humanity. Mr. Spokes, in replying, said that certain structural arrangements in the hospital were contemplated in order that the building might be more efficient, and he appealed to all present to assist in raising the necessary funds. Even if they were unable to do so personally they might do so indirectly by pointing out when suitable opportunities occurred the importance of the work done by the hospital. The dental surgeon was quite willing to do his share of the public work involved in the inspection of school children, but when as the result of an enlightened public opinion the demand was made for an adequate supply of dentists it would be found that there were not enough dentists to do the work. Until the public made the demand they could not expect to get the supply. The medals and certificates won by the students during the session 1908–09 were then handed to the successful competitors by Sir Thomas Barlow. Mr. C. Stacey won the Ash prize, Mr. C. L. Donne and Mr. C. Stacey the Cottrell prizes, and Mr. Donne the Rymer medal. The toast of the "Past and Present Students" was proposed by Dr. Dudley Buxton, who pointed out that it was a dentist who first discovered nitrous oxide, and a dentist also who introduced it into this country. Now the dentist was told that he was not fit to use it. Mr. Sidney Rose and Mr. Cecil L. Donne replied. Dr. H. P. Noble proposed "The Visitors," which was responded to by Mr. F. S. Eve. Dr. James Maughan proposed "The Chairman." A well-rendered musical programme added to the pleasure of an enjoyable evening.

LIVERPOOL HOSPITAL SUNDAY FUND.—The thirty-ninth annual meeting of the Hospital Sunday Fund was held at the Town Hall on Nov. 10th, the Lord Mayor presiding. The receipts from the collections made on Hospital Sunday of 1909 were £6235 18*s.* 5*d.*, against £6423 15*s.* 4*d.* in 1908, being a decrease of £187 16*s.* 11*d.* The total amount available for distribution was £6333 12*s.* 5*d.*, and of this sum £6297 17*s.* 3*d.* had been paid over to the joint Hospital Sunday and Saturday Fund, while a balance of £35 15*s.* 2*d.* had been carried forward. The committee alluded to the fact that each year the hospitals throughout the city were spending large sums of money to increase their accommodation in the most scientific manner. The recent rebuilding of the Children's Infirmary, the new dental hospital, the new out-patients' departments in connexion with the Royal Infirmary and Royal Southern Hospital, an additional operating theatre at the David Lewis Northern Hospital, the proposed rebuilding of St. Paul's Eye Hospital, and the New Maternity Hospital, all bore witness to the keenness and enthusiasm of the citizens in providing the best that could be obtained to relieve the suffering poor. The committee desired to thank Mr. George Nicholson for his generous offer to bear the entire cost of the expenses of the Hospital Sunday Fund for this year, thus enabling the committee to distribute every penny contributed to the fund. Sir William H. Tate, Bart., kindly offered to guarantee the amount of the expenses during the coming year, not exceeding, say, £250. The honorary treasurer deplored the fact that the total amount distributed by the joint Hospital Saturday and Sunday Fund was £1500 less than last year.

BOOKS, ETC., RECEIVED.

AMERICAN DERMATOLOGICAL ASSOCIATION (Secretary: Dr. Grover W Wende, Buffalo).

Transactions of the American Dermatological Association at its Thirty-second Annual Meeting held in Annapolis, Maryland, Sept. 24th and 25th, and in Baltimore, Sept. 26th, 1908. Price not stated.

APPLETON, D., AND COMPANY, New York and London.

Practical Dietetics. With Special Reference to Diet in Diseases. By W. Gilman Thompson, M.D. Fourth edition, illustrated, enlarged, and completely rewritten. Price 21*s.* net.

The Diagnostics of Internal Medicine. By Glentworth Reeve Butler, M.D., Sc.D., LL.D. Third revised edition. Price 25s. net.

ARNOLD, EDWARD, London.

A Text-book of Medical Treatment (Alphabetically arranged). By William Calwell, M.A., M.D. Price 16s. net.

ARROWSMITH, J. W., Bristol. (SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.)

Industrial Diseases and Accidents. By W. J. Greer, F.R.C.S., D.P.H.I. Price 7s. 6d. net.

BAILLIÈRE, TINDALL, AND COX, London.

Chemical Notes and Equations, Inorganic and Organic. By G. H. Gemmell, F.I.C., F.C.S. Second edition. Price 5s. net.

The Poisons and Pharmacy Act, 1908. (8 Edw. 7, Ch. 55.) With Notes by H. Wippell Gadd, of the Middle Temple, Barrister-at-Law. Price 1s. net.

BLACK, ADAM AND CHARLES, London.

Primer of Statistics. [By W. Palin Elderton and Ethel M. Elderton. Price not stated.

CASSELL AND COMPANY, LIMITED, London, New York, Toronto, and Melbourne.

Manual of Military Ophthalmology. For the Use of Medical Officers of the Home, Indian, and Colonial Services. By M. T. Yarr, F.R.C.S.I., Lieutenant-Colonel, Royal Army Medical Corps. Second edition. Price 6s.

The Case against Christian Science. By Stephen Paget, F.R.C.S. Being Papers read at the Church Congress, Swansea, and the Annual Meeting of the Congregational Union, Sheffield. Price 6d. net.

CHURCHILL, J. AND A., London.

Transactions of the Ophthalmological Society of the United Kingdom. Volume XXIX. Session 1908–1909. With List of Officers, Members, &c. Price 12s. 6d.

CHURCH LADS' BRIGADE, London.

Manual for the Church Lads' Brigade Medical Corps. Fifth edition. Price not stated.

CLARENDON PRESS, Oxford. (FROWDE, HENRY, London, Edinburgh, New York, Toronto, and Melbourne.)

A History of the Oxford Museum. By H. M. Vernon, D.M., and K. Dorothea Vernon. Price 1s. 6d. net.

Browne's Religio Medici and Digby's Observations. Price 5s. net.

COLLINGRIDGE, W. H. AND L., London.

The Months of the Year. By the Rev. Pemberton Lloyd, M.A. Price 5s. net.

CULLEY, ROBERT, London.

Christian Healing. The Words and Facts of the New Testament on the Subject, and Some Arguments and Conclusions to be drawn from them. By T. Farmer Hall. Price 6d. net.

DUNLAP PRINTING CO., Philadelphia.

Philadelphia General Hospital Reports. Volume VII. 1908. Edited by Herman B. Allyn, M.D. Price not stated.

EUGENICS EDUCATION SOCIETY, London.

Essays in Eugenics. By Sir Francis Galton, F.R.S. Price 1s. 6d. net.

FISCHER, GUSTAV, Jena.

Handbuch der Gesamten Therapie. In sieben Bänden. Herausgegeben von Dr. F. Penzoldt und Dr. R. Stintzing. Vierte umgearbeitete Auflage. Siebente Lieferung. Price M.4.50

Theodorus Priscianus und die Römische Medizin. Von Dr. med. et Jur. Theodor Meyer. Price, paper, M.7.; bound, M.8.

FISCHER'S MEDICIN. BUCHHANDLUNG H. KORNFELD, Berlin.

Therapeutisches Taschenbuch der Nervenkrankheiten. Von Dr. W. Alexander und Dr. K. Kroner. Mit einem Vorwort von Geh. Med.-Rat Prof. Dr. Goldscheider. Price M.3.50.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

Oxford Medical Publications. A System of Syphilis. In six volumes. Edited by D'Arcy Power, M.B. Oxon., F.R.C.S., and J. Keogh Murphy, M.D., M.C. Cantab., F.R.C.S. With an Introduction by Sir Jonathan Hutchinson, F.R.S. Vol. III., price £2 2s. per volume net; or to subscribers, £10 10s. net for the set of six volumes.

GLAISHER, HENRY J., London. (CHICAGO MEDICAL BOOK COMPANY, Chicago.)

Soured Milk and Pure Cultures of Lactic Acid Bacilli in the Treatment of Disease. By George Herschell, M.D. Lond. Second edition. Price 2s. 6d. net.

HIRSCHWALD, AUGUST, Berlin.

Bibliothek v. Coler—v. Schjerning. Band XXVIII. Sanitätsstatistische Betrachtungen über Volk und Heer. Von Otto von Schjerning. Price, M.3.

Das Erkenntnisproblem und seine kritische Lösung. Von Berthold Kern. Price M.5.

JOUVE, HENRI, Paris.

The Thermal Springs and the Climate of Estoril in Chronic Rheumatism and Gout during Winter. By Dr. D. G. Dalgado, of the Royal Academy of Sciences of Lisbon. Price 2s.

KARGER, S., Berlin.

Die methodische Intestinalpalpation mittels der topographischen Gleit- und Tiefenpalpation und ihre Ergebnisse mit Einschluss der ileocoecalgegend mit Berücksichtigung der Lageanomalien des Darmes. Von Dr. Theodor Hausmann. Price M.4.50.

Die Physiologie und Pathologie des Wochenbettes. Für Aerzte dargestellt von Privatdozent Dr. F. Fromme. Price, paper, M.8.40; bound, M.9.60.

Jahrbuch für Kinderheilkunde und Physische Erziehung. Unter Redaktion von O. Heubner, A. Steffen, und Th. Escherich. 70, der dritten Folge 20 Band. Heft 5. Price not stated.

KIMPTON, HENRY, London. (STENHOUSE, ALEXANDER, Glasgow.)

Clinical Obstetrics. By Robert Jardine, M.D. Edin., M.R.C.S. Eng., F.F.P. & S. Glasg., F.R.S. Edin. Third edition. Price 21s. net.

The Care of Children from Babyhood to Adolescence. For the Use of Mothers and Nurses. By Bernard Myers, M.D., C.M., M.R.C.S., L.R.C.P., L.M. With a Preface by George F. Still, M.A., M.D., F.R.C.P. Price 1s. 6d.

LIPPINCOTT (J. B.) COMPANY, Philadelphia and London.

A Handbook of Medical Diagnosis. By J. C. Wilson, A.M., M.D. Price 25s. net.

LONGMANS, GREEN, AND CO., London, New York, Bombay, and Calcutta.

The Commonweal: A Study of the Federal System of Political Economy. By Alfred P. Hillier, B.A., M.D. Price 4s. 6d. net.

MEDICAL PUBLISHING COMPANY, LIMITED, London.

The Value of an Exclusive Proteid Diet in certain Digestive Disorders. By Ernest Young, M.D. Price 1s. 6d.

METHUEN AND CO., London.

The Mediæval Hospitals of England. By Rotha Mary Clay. With a Preface by the Lord Bishop of Bristol. Price 7s. 6d. net.

SMITH, ELDER, AND CO., London.

Fifty Years of New Japan. Compiled by Count Shigénobu Okuma, late Prime Minister and Minister for Foreign Affairs. English Version. Edited by Marcus B. Huish. Two Volumes. Price 25s. net.

TAYLOR AND FRANCIS, London.

Appendix XXIII. to the Second Edition of the Descriptive Catalogue of the Pathological Specimens contained in the Museum of the Royal College of Surgeons of England. By Samuel G. Shattock, Pathological Curator of the Museum. Price not stated.

THACKER, SPINK, AND CO., Calcutta. (THACKER AND CO., London.)

Small-pox and Vaccination in British India. By S. P. James, M.D. Lond., D.P.H., Major, Indian Medical Service. Price 6 Rupees, or 7s. 6d.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Housing and Town Planning Bill.

THERE is now every prospect of the Housing and Town Planning Bill reaching the Statute-book this year. Conciliatory influences have prevailed, and the House of Lords has accepted in almost every respect the plan of concessions suggested by the President of the Local Government Board in the House of Commons. The result is that some of the provisions of the Bill now represent a compromise. The Housing and Town Planning Bill has been before Parliament for two sessions. Last year it was subjected to a minute examination at the hands of a Standing Committee of the House of Commons, but no time remained to pass it through all its stages and to send it to the Lords. The intention of the Government to press it forward early this year was frustrated by the pressure of other business. However, they felt themselves pledged not to allow another session to pass without a serious attempt to place it on the Statute-book. After the Commons had passed it under a closure resolution it reached the Lords at a comparatively late date in the session. In the Upper Chamber it was so greatly amended in committee that at one time it was feared that the Government would abandon it. However, as the result of mutual concessions its passage is now assured.

Many medical men will be gratified that the Lords have not insisted on their amendments in the clause relating to the medical officers of county councils. On Friday, the 19th, the House agreed to the reinsertion of the section providing that the medical officer of health of a county should only be removed with the consent of the Local Government Board. The Commons inserted a provision in the clause that the duties of a medical officer of health of a county should be such duties as might be prescribed by general order of the Local Government Board and such other duties as might be assigned to him by the county council. This has also been accepted by the Lords, but a new subsection has been added that the general order prescribing these duties should be laid before Parliament.

HOUSE OF COMMONS.

TUESDAY, NOV. 23RD.

The Indian Medical Service.

Mr. HAZLETON asked the Under Secretary of State for India what was the percentage of Indians amongst the officers of the Indian Medical Service; what was the total cost for the upkeep of this service; what was the charge on the Indian Treasury for recruiting the higher grades of the medical service of India in this country, and sending the successful candidates to India; what was the number of officers who were on leave every year and the cost of the extra number taken into the service during their absence owing to Indian assistant surgeons not being allowed to take their places; and when he proposed to open the higher grades to qualified and capable Indians.—The MASTER OF ELIBANK replied: The percentage of Indians (i.e., pure Asiatics) among the officers of the Indian Medical Service is rather more than five. The total cost of the officers of this service on the active list, including both those in military and in civil employ, is approximately £570,500 a year. The charge for recruiting these officers,

both European and Asiatic (both being recruited in England) is about £12,260 a year, which includes the pay of the officers while under training in England. The average number on leave may be taken as 123. The vacancies so arising are filled from the establishment and not by extra appointments. The higher grades are already open to qualified and capable Indians.

Vaccination in the Army.

Mr. JOHN WARD asked the Secretary of State for War whether the exemption of the Territorial Forces from compulsory vaccination had had any effects detrimental to the health of the men; and, if not, whether he would issue orders to respect the conscience in this matter of recruits to both branches of His Majesty's Forces.—Mr. HALDANE replied: No statistics are available at the War Office to enable me to reply to the first part of the question. As regards the second part of the question, there is no intention of waiving the regulations regarding vaccination in the regular forces.

WEDNESDAY, NOV. 24TH.

The Royal Army Medical Corps in Ireland.

Mr. ASHLEY asked the Secretary of State for War whether steps were being taken to ensure that officers of the Royal Army Medical Corps serving in Ireland should this year receive the full leave to which they were entitled by the Regulations.—Mr. HALDANE answered, in accordance with a previous written reply (THE LANCET, Nov. 13th, p. 1477): Under normal conditions it will now be possible to give every Royal Army Medical Corps officer serving in Ireland throughout the year full leave, provided that he is willing to take it when the exigencies of the service permit.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

BATES, T., jun., M.B., B.S. Lond., F.R.C.S. Eng., has been appointed an Honorary Surgeon to the Worcester General Infirmary.

CHEYNE, Sir WATSON, Bart., C.B., F.R.S., has been appointed Consulting Surgeon to the Central London Throat and Ear Hospital.

CLAYTON, F., M.D., B.C., has been appointed House Physician at University College Hospital.

COOMBE, RUSSELL, M.D. Cantab., F.R.C.S. Eng., has been appointed Honorary Consulting Surgeon to the Axminster (Devon) Cottage Hospital.

CRABB, R. L., M.B., B.S., has been appointed House Physician at University College Hospital.

KIDD, F. S., M.B., B.C. Cantab., F.R.C.S. Eng., has been appointed Assistant Demonstrator of Anatomy at the London Hospital Medical College.

LINNELL, J. W., M.B. Cantab., has been appointed Resident Medical Officer at the Mount Vernon Hospital, Hampstead, N.W.

LOW, V. WARREN, M.D., B.S. Lond., F.R.C.S. Eng., has been appointed Surgeon to In-patients at St. Mary's Hospital.

MILLER, ARTHUR H., M.B. Cantab., M.R.C.P. Lond., has been appointed Physician to Out-patients at the City of London Hospital for Diseases of the Chest.

MILLER, REGINALD, M.D. Lond., M.R.C.P., has been appointed Assistant Physician to Out-patients at St. Mary's Hospital.

QUIRK, E. J. J., M.R.C.S., L.R.C.P. Lond., has been appointed House Anæsthetist to the Royal Dental Hospital.

SLEIGH, H. P., M.B., Ch.B. Aberd., has been appointed Medical Officer of Health to the Samford Rural District Council, Suffolk.

SNYED, G. C., L.R.C.P., L.R.C.S. Irel., has been appointed House Surgeon at the North Ormesby Hospital.

SOUTTAR, H. S., M.B. Oxon., M.R.C.S., L.R.C.P., has been appointed Assistant Demonstrator of Anatomy at the London Hospital Medical College.

STEWART, PURVES, M.D. Edin., has been appointed Consulting Physician to the Central London Throat and Ear Hospital.

THOMPSON, Sir WILLIAM J., M.D. Dub., has been appointed Registrar-General for Ireland.

TODRICK, ARCHIBALD, M.B., Ch.B. Edin., has been appointed House Physician at the Mount Vernon Hospital, Hampstead, N.W.

TROTTER, L. B., M.B., B.C., has been appointed House Surgeon at University College Hospital.

WALLACE, JOHN THOMPSON, M.B., B.Ch., B.A.O. R.U.I., has been appointed Surgeon to the Great Western Railway Provident Society at Bristol.

WATT, E., M.D. Glasg., has been appointed Medical Officer of Health for Partick, Superintendent of Knightswood Hospital, and Police Surgeon.

WILSON, A. J., F.R.C.S. Edin., D.P.H., has been appointed Medical Officer of Health to the Airdrie Burgh, Medical Officer to the Fever Hospital, and Police Surgeon.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARMY MEDICAL SERVICE.—Five Commissions in the Royal Army Medical Corps.

CANCER HOSPITAL, Fulham-road, London, S.W.—Physiological Chemist. Salary £350 per annum.

CARDIFF INFIRMARY (GENERAL HOSPITAL).—House Surgeon for the Ophthalmic and Ear and Throat Departments for six months. Salary £30, with board and residence.

CHARTHAM, KENT COUNTY ASYLUM.—Third Assistant Medical Officer. Salary £145 per annum, with board, quarters, attendance, and washing.

CITY OF LEEDS INFECTIOUS DISEASES HOSPITALS AND SANATORIUM.—Resident Medical Officer, unmarried. Salary at rate of £120 per annum, with board, lodging, and washing.

EDINBURGH SCHOOL BOARD.—Two Assistant Medical Officers. Salary £250 per annum.

FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, 17, Bartlett's Buildings, Holborn-circus, E.C.—Honorary Physician.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House Surgeon for six months. Salary at rate of £90 per annum, with board, residence, and washing.

HAMPSTEAD GENERAL HOSPITAL, N.W.—Physician to Out-patients.

HANLEY EDUCATION COMMITTEE.—School Medical Officer (female). Salary £250 per annum.

HARROGATE, BOROUGH OF.—Medical Officer of Health and Medical Inspector of School Children. Salary £400 per annum and expenses out of pocket.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physician. Also Assistant Resident Medical Officer. Salary £100 per annum, with board and residence.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Resident Medical Superintendent, House Surgeon, Assistant Casualty Medical Officer, and Ophthalmic Surgeon.

HUDDERSFIELD INFIRMARY.—Senior Assistant House Surgeon. Also Junior House Surgeon. Salaries £80 and £60 per annum respectively, with board, residence, and washing.

LEEDS PUBLIC DISPENSARY.—Honorary Assistant Dental Surgeon.

LEEDS GENERAL INFIRMARY.—House Physician. Board, residence, and washing provided.

LEYTON, WALTHAMSTOW, AND WANSTEAD CHILDREN'S AND GENERAL HOSPITAL.—Resident House Surgeon. Salary £100 per annum, with board, rooms, and washing.

LIVERPOOL INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and lodging.

MANCHESTER, MONSALL FEVER HOSPITAL.—Second Medical Assistant and Third Medical Assistant. Salaries £125 and £100 per annum, with board, lodgings, and washing.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per annum, with residence, board, and washing.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Soho-square, W.—Honorary Radiographer.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—Resident Medical Officer, also Junior House Physician. Salaries £100 and £50 per annum respectively, with board and residence.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with board, lodging, and washing.

NOTTINGHAM WORKHOUSE INFIRMARY.—Resident Assistant Medical Officer. Salary £130 per annum, with apartments, board, washing, and attendance.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Physician to Out-patients.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Bacteriologist. Salary £120 per annum, with lunch. Also Curator and Librarian. Salary at rate of £120 per annum, with lunch.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board and washing.

SEAMEN'S HOSPITAL SOCIETY, Greenwich, S.E.—Senior House Surgeon and Registrar. Also House Surgeon. Salaries £100 and £50 per annum respectively, with board, residence, and washing.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Surgeon. Also Assistant House Physician. Salary £50 per annum each, with board, lodging, and washing.

SHEFFIELD ROYAL INFIRMARY.—Assistant House Physician. Salary £60 per annum, with board and residence.

SOUTHWARK UNION, London.—Medical Officer of the Children's Receiving Homes. Salary at rate of £50 per annum.

SUFFOLK DISTRICT ASYLUM, Melton.—Second Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, attendance, and laundry.

WEST SUFFOLK EDUCATION COMMITTEE.—Medical Inspector of School Children. Salary £250 per annum, with travelling expenses.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary at rate of £80 per annum, with board, rooms, and laundry.

Births, Marriages, and Deaths.

BIRTHS.

DONALD.—On Nov. 21st, at Mount Wise, Falmouth, the wife of John A. Donald, L.D.S., of a daughter.

MCKELLAR.—On Nov. 20th, at Front-street, Chester-le-Street, County Durham, to Dr. and Mrs. W. Anderson McKellar, a daughter.

PARKHURST.—On Nov. 19th, at "Rathan," Newhaven, the wife of Rodie Parkhurst, M.B., C.M., of a daughter.

WARREN.—On Nov. 20th, at 15, Lansdowne-crescent, W., the wife of Alfred C. Warren, M.D. Cantab., of a daughter.

DEATHS.

BARRITT.—On Nov. 18th, 1909, Ciara Lilian Barritt, beloved wife of Dr. G. Lacy Barritt, M.R.C.S., L.R.C.P. Lond., of 15, High-street, Spalding.

SECCOMBE.—On Nov. 19th, at Granville Mansions, Torquay, Thomas Seccombe, M.D., F.R.C.S., Deputy Inspector-General of Hospitals and Fleets (retired), aged 90 years.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A COMPARATIVE RESEARCH UPON VARIOUS LOCAL ANÆSTHETICS: THE PERILS OF COCAINE.

To the *Bulletin des Sciences Pharmacologiques* M. J. Chevalier has recently communicated the results of a series of tests which he has made to determine the comparative value of several of the leading local anæsthetics. The substances examined included cocaine, tropacocaine, stovaine, alypine, anæsthesine, and novocaine. As regards their general action these substances behave, he said, similarly and manifest identical phenomena. They act chiefly on the central nervous system and particularly on the bulb, producing, in toxic doses, general analgesia, tonico-clonic convulsions, and finally death by asphyxia. They differ from each other only in toxicity and in the intensity of their local action upon the blood and tissues. The following table gives the toxic dose in grammes of each of these substances when injected into various animals:—

Animal.	Mode of injection.	Cocaine.	Stovaine.	Anæsthesine.	Novocaine.	Alypine.	Beta-eucaine.
Guinea-pig.	Interperitoneal.	0·08	0·18	0·85–0·90	0·50	0·16	0·24–0·26
Cat.	,,	0·03	0·11	,,	0·45	0·057	,,
Dog.	,,	0·05	0·12	0·75	0·48	0·06	,,
,,	Intravenous.	0·003	0·10–0·12	0·40	0·20	0·002	0·05–0·06
,,	Subcutaneous.	0·04	0·12	,,	0·45	0·07	0·30–0·35

From these figures it is evident that cocaine is by far the most toxic of the commonly used local anæsthetics. M. Chevalier makes the interesting statement that these substances do not exert a general action, except cocaine, which induces euphoria with nervous and muscular stimulation. Turning to the action of these substances on the heart, he points out that cocaine differs from the rest in causing a rise in blood pressure, owing to its general and local vaso-constrictive power. Of the other local anæsthetics, stovaine most nearly approaches cocaine in this respect, but it has no action on the vaso-motors. Beta-eucaine is a very energetic cardiac depressor, and for this reason its toxicity is greatly increased when it is rapidly introduced into the circulation. As regards the mechanism of the local anæsthetic action of these substances, M. Chevalier suggests that it may be due to an incomplete and transient coagulation of the albuminoids, causing a modification of the osmotic tension of the cellular fluid. In this way the normal functions of the living protoplasm are suspended, the sensitiveness of the nerves is deadened, the nerves endowed with motor and trophic functions are temporarily affected, and the respiration of the tissues is modified. On this account novocaine has been used to hinder the nutrition of cancerous tissues. These phenomena are accentuated when the local anæsthetic is combined with the active principle of the suprarenal glands, the intense vaso-constrictive action of this substance greatly lowering the cellular vitality which has already been modified by the local anæsthetic. A further reason for the increased anæsthetic action of the combination lies in the fact that the action of the anæsthetic is localised around the seat of injection, the diffusion of the liquid being prevented by the temporary suspension of the circulation. Cocaine and tropacocaine do not exert any marked action on the red blood corpuscles, but the other substances tend either to destroy them or to modify their power of resistance. From a therapeutic point of view M. Chevalier considers that many of the local anæsthetics are capable of yielding satisfactory results when properly used, but that it is a matter for discussion as to which of them is the best. Assuming that the value of a local anæsthetic depends upon its anæsthetic power, toxicity, and freedom from local irritation, he places stovaine and novocaine along with cocaine. He thinks the latter will continue to be used, in spite of its toxicity and the accidents caused by its intense vaso-constrictive action. Alypine causes irritation, beta-eucaine is too toxic, while anæsthesine is not sufficiently soluble. From a consideration of therapeutic results he finds it difficult to choose between stovaine and novocaine. Many surgeons prefer stovaine for important operations and for producing medullary anæsthesia, while dentists give the preference to novocaine, which they are able to combine more easily with suprarenalin.

"WOMAN AT HOME."

Amongst the "Christmas" papers and magazines which we have received is a double number of *Woman at Home*, a brightly edited paper dealing with many feminine interests. We have been particularly interested in an article by Marion Francis Neil on "The Art of Making Poultices," which should be of real value, as the art is quite unknown to many people who are called upon to practise it. The directions for linseed and mustard poultices are excellent, though we cannot entirely endorse the suggestion that people subject to "bronchial attacks" will gain much good by carrying *dry* mustard poultices with them on their travels. We would rather the author had omitted the bread poultice, which is always messy and generally ineffective; it might well have been replaced by a description of the useful turpentine stupe. The other articles in the magazine hardly come within our purview, unless we utter an anatomical growl at the conventional "fashion-plate ladies" on the back pages, but this would hardly be fair, as they are redeemed by some excellent photographic representations of living models in a special fashion supplement.

"DR. GUILLOTIN."

To the Editor of THE LANCET.

SIR,—The citation from Lenotre's book by Dr. Oscar Jennings does not, I think, quite invalidate the claim I have attempted to establish. Dr. Guillotin's remarks in the Constituent Assembly on Dec. 1st, 1789, do not appear to have been regarded seriously; the *Moniteur*, in describing the scene, said they were received with much merriment. It seems tolerably clear that the instrument which subsequently obtained such notoriety was designed by Dr. Antoine Louis, was constructed under his supervision, and for some time bore no other designation than La Louisette. When Dr. Louis presented to the assembly a report announcing the completion of the task imposed on him to produce a decapitator which would work automatically and instantaneously he made no reference whatever to Dr. Guillotin. Dr. Louis may have taken as a rough model a beheading machine employed in France some centuries before the Revolution or he may have been indebted to illustrations of similar machines anciently used in other countries—e.g., the Mannaia in Italy, the Hobel in Germany, the Halifax in England, and the Maiden in Scotland.

I am, Sir, yours faithfully,

Worthing, Nov. 15th, 1909. WATKIN W. JONES.

A SIMPLE LEDGER FOR MEDICAL PRACTITIONERS.

Mr. H. K. Lewis, 136, Gower-street, London, W.C., sends us a copy of a medical ledger which has been designed to meet the requirements of the busy practitioner who wants a simple and compact system of bookkeeping. It is a combination of day book and ledger, the first part being set out for daily entries, and the second part, which is indexed alphabetically on the margin, for monthly and yearly totals. At each opening in the first part are columns for entry of page in case book, name, address, records of 31 visits, total fees for month, amount received and date of payment, amount carried to yearly summary, and memoranda. The ledger has been arranged so that the labour involved in bookkeeping is reduced to a minimum, and it would be hardly possible to devise a simpler and yet more complete scheme. It can be commenced at any date, and is intended to last a year, but in many cases would be serviceable for a longer period. The page is quarto size and the binding is stout. The publisher informs us that a copy will be forwarded for inspection if desired. The price is 6s. net.

PRINTING "IN REVERSE."

To the Editor of THE LANCET.

SIR,—Some persons whose sight is impaired can read white letters on a black ground more easily than black on white. I know one gentleman who writes habitually on black paper with white ink. Printing "in reverse" is somewhat troublesome, but if many customers were forthcoming publishers would doubtless meet the want. I shall be glad to hear from anyone interested in the subject. A trial can be made with one of the numerous advertisements now printed in reverse, or I would gladly send a specimen.—I am, Sir, yours faithfully,

AMATEUR PRINTER, M.D.

29, Woolwich Common, Nov. 23rd, 1909.

A NEW SERIES OF NOTE-BOOKS.

THERE is no doubt that the best system for taking and filing lecture notes is one in which separate leaves of the note-book can be detached and arranged easily for subsequent reference. Messrs. John Walker and Co., of Farringdon House, Warwick-lane, London, E.C., have issued a series of "Expert Manuscript Books" which present the great advantage that a student need take only one note-book to a round of lectures, subsequently transferring each batch of notes to a separate binding cover in which they can be readily numbered and fixed. The series is made in several sizes from octavo up to full quarto, and the binding cases are covered in stiff coloured canvas, having inside them an ingenious hinged metal clip which receives the actual MSS. book, which can be had either plain or ruled in various styles. The book is kept secure by two stout pins that transfix corresponding holes bored through its thickness near the back margin. Each leaf is perforated so that it may be torn out after use, and in front of the perforation are two other large holes which enable it, after its removal from the book, to be fastened into a special binding case in a similar manner. Thus by degrees, if such a transfer binding case be devoted to each lecture subject, a series of manuscript books will be built up, all of which may be fed from one single working note-book. The series deserves popularity amongst medical students who have to attend so wide a ran e of classes.

A "NATURAL" FEEDING-BOTTLE.

Mr. W. E. Lowe, of 8, Stafford-street, Old Bond-street, W., has sent us an ingenious feeding-bottle for infants known as the "Amater" which has been made to the design of Mr. W. J. Henson, L.M.S.S.A., whose aim has been to imitate the mechanism of the actual breast and so to prevent the infant from sucking in air. The bottle is spherical except for the bottom, which is flattened to enable it to stand upright. At the opposite pole is a wide neck over which fits the rubber teat, which has a broad shield at its base. Near the neck is a small air-hole in the glass which can be regulated exactly by the finger so as to control the flow of milk, which when the bottle is held in proper position bulges out the whole teat and causes it to resemble a breast in both contour and softness. The teat can be turned inside out and thoroughly cleansed without the use of a brush, and the inside of the bottle being free from all angles is readily sterilised in a small saucepan. Mr. Henson states that he has had such bottles in use for a considerable time, and the success of the trial which was made with the specimen sent us thoroughly warrants our bringing it to the notice of our readers.

R. H.—The combination of the tinctures of strophanthus and digitalis is quite unobjectionable and sometimes proves extremely useful. Our correspondent might with confidence add Tr. digitalis, ♏ v., to the mixture which he is employing.

G.P. has failed to substantiate his communication with his name and address.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

FRIDAY.

LARYNGOLOGICAL SECTION (Hon. Secretaries—George C. Cathcart, L. Hemington Pegler): at 5 P.M.

Cases and Specimens:

Dr. Dundas Grant: (1) Epithelioma of the Palate and Left Pillar of the Fauces; (2) Secondary Specific Pharyngitis in Young Female.

Dr. W. H. Kelson: Suppuration in Frontal Sinus and Necrosis.

Mr. H. Betham Robinson: (1) Left Abductor Paralysis in a Young Man—presumably Toxic from Lead; (2) Chronic Laryngitis with Curious Appearance of Right Vocal Cord.

Dr. Scanes-Spicer: Model by which the Variation in Effect of Costal (back) and Abdominal (belly) Breathing on the Stresses, Strains, and Frictions in the Throat and Larynx, more especially of Cricoid Cartilage on the Spinal Column, and also the Transverse Axis of Respiratory Rotation of the Cricoid on the Thyroid Cartilage, can be illustrated.

And other Cases.

SECTION OF ANÆSTHETICS (Hon. Secretaries—Llewelyn Powell, R. W. Collum): at 8.30 P.M.

Paper:

Mr. Bellamy Gardner and Dr. Salusbury Trevor: Lymphatism, with specimens and lantern illustrations.

SATURDAY.

OTOLOGICAL SECTION (Hon. Secretaries—Hunter F. Tod, H. J. Marriage): at 10 A.M.

Cases:

Dr. Edward Law: Deafness and Discomfort in the Right Ear as Early Symptoms in a Case of Epithelioma originating near the Right Eustachian Tube.

Mr. Herbert Tilley: A Case of Audible Tinnitus.

Mr. W. Milligan: Demonstration of Haye's Pharyngoscope.

Mr. Richard Lake: A Short Paper on the Post-operative Tests in Right Cases of Labyrinthine Disease.

Dr. Albert Gray: A Contribution to the Study of the Pathology of Deafmutism (with lantern slide demonstration).

Mr. Sydney Scott: Microscopical Sections through the Mastoid Antrum in a Fatal Case of Scarlet Fever demonstrating Streptococcus Conglomeratus *in situ*. Brief Notes of the Case with Description of Histological Technique.

And other cases.

RÖNTGEN SOCIETY, 20, Hanover-square, W.

THURSDAY.—8.15 P.M., Ordinary General Meeting. Prof. A. W. Porter: Some Effects of Electrical Discharges on Photographic Plates.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, N.

THURSDAY.—4.15 P.M., Clinical Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Mr. J. M. H. MacLeod: Clinique (Skin). 5.15 P.M., Lecture:—Mr. H. A. Ballance (Norwich): Fractures of the Lower End of the Humerus in Children (illustrated).

TUESDAY.—4 P.M., Dr. J. W. Carr: Clinique (Medical). 5.15 P.M., Lecture:—Mr. H. J. Stiles (Edinburgh): Treatment of Hernia in Infants and Young Children.

WEDNESDAY.—4 P.M., Mr. L. Cheatle: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. C. Ryall: Appendicitis in the Female.

THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. D. Drummond (Newcastle): The Causes and Treatment of Indigestion.

FRIDAY.—4 P.M., Mr. R. E. Bickerton: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. X Rays. 5 P.M., Lecture:—Mr. Bidwell: Practical Surgery.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. X Rays. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Pritchard: Serum Diagnosis of Syphilis.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. Mr. B. Harman Diseases of the Eyes. 2.30 P.M., Operations. X Rays. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Medicine.

THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. X Rays. 5 P.M., Lecture:—Mr. Edwards: Clinical.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Medical Registrar: Demonstration of Cases in the Wards. 2 P.M., Medical and Surgical Clinics. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. X Rays. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Armour: Head Injuries.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Mr. B. Harman: Diseases of the Eyes. Dr. Davis: Diseases of the Throat, Nose, and Ear. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. 2.30 P.M., Operations. X Rays.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.15 P.M., Special Lecture:—Mr. W. Turner: Some Late Complications following Operation.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Cariess: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture:—Prof. Hewlett: Some Practical Applications of Pathology to Clinical Medicine.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 3.15 P.M., Special Lecture:—Mr. McGavin: Prostatic Enlargement and its Treatment.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson). 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations. Clinics:—Surgical (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles). 4.30 P.M., Lecture:—Dr. Macdonald: New Methods for the Estimation of Sugar.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Dr. H. Pirie).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

MONDAY.—4 P.M., Lecture: Sir Victor Horsley: Surgical Diagnosis and Treatment of Diseases of the Nervous System.

TUESDAY.—3.30 P.M., Clinical Lecture. Mr. Armour: Osteoplastic Operations on the Skull.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. J. Collier: Diseases of the Brain Stem.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.

THURSDAY.—2 P.M., Clinical Demonstration:—Dr. S. Fenwick: Diseases of the Stomach.

HOSPITAL FOR SICK CHILDREN (UNIVERSITY OF LONDON), Great Ormond-street, W.C.

THURSDAY.—4 P.M., Lecture (Medical):—Dr. Poynton: Recurrent Family Periodic Jaundice.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Dr. B. Kingsford: Anæsthetics.
THURSDAY.—4.30 P.M., Clinical Lecture:—Mr. Stuart-Low: Cancer of the Throat—its Prevention and Treatment.
FRIDAY.—3.45 P.M., Lecture:—Mr. W. Wallis: Mouth and Teeth.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W

MONDAY.—3 P.M., Clinical Demonstration: Dr. H. Campbell.
TUESDAY.—5 P.M., Clinical Demonstration:—Dr. J. Mackenzie.
WEDNESDAY.—3 P.M., Clinical Demonstration:—Dr. F. Palmer.
THURSDAY.—3 P.M., Clinical Demonstration:—Dr. T. D. Savill.
FRIDAY.—2 P.M., Clinical Demonstration:—Dr. P. Stewart. 5.30 P.M., Clinical Demonstration: Dr. E. Macnamara.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—Baldness—its Causes and Treatment.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College 2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

WEDNESDAY (1st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan 9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (2nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, (9 A.M., Major, 2 P.M.).

FRIDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor 9 A.M., Major, 2 P.M.).

SATURDAY (4th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 25th, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Nov. 19	30·14	N.E.		69	45	39	37	40	Cloudy
,, 20	30·19	N.E.	0·01	56	46	38	37	39	Cloudy
,, 21	29·96	W.	...	61	44	34	34	35	Fine
,, 22	29 98	N.	...	61	41	34	33	34	Fine
,, 23	30 30	N.	...	47	41	34	34	35	Fine
,, 24	30·33	N.W.	...	55	42	33	33	34	Fine
,, 25	30·29	N.W.	...	46	43	34	39	40	Overcast

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